Government
Publications

SESSIONAL PAPERS

VOLUME 10.

SEVENTH SESSION OF THE TWELFTH PARLIAMENT

OF THE

DOMINION OF CANADA

SESSION 1917

VOLUME LII.

LIBRARY
JUL 1 1966
UNIVERSITY OF TORONTO

1091412

ALPHABETICAL INDEX

TO THE

SESSIONAL PAPERS

OF THE

PARLIAMENT OF CANADA

SEVENTH SESSION, TWELFTH PARLIAMENT, 1917.

A

Acadia Coal Co., documents *re* Conciliation Board to employees of 1916.. .. 162
Adertising of Canadian Products by sample goods in France.. .. .. 205*a*
"Agricultural Instruction Act"—Report on.. .. .. 15*c*
Agriculture, Report of Minister of year 1916.. 15
Agriculture, Dept. of, numbers of employees in from 1911 to 1917, etc.. .. 138*g*
Agriculture, total expenditure in, by Government in each of years from 1904-5, 1916-17, etc.. 222
Aliens, number of interned, nationality of each on Public Works since 1914.. .. 141
Americans, number in Canadian Regiments since 1914.. .. .. 143*a*
Ammunition, Order in Council *re* rules respecting employees near wharves.. .. 43*b*
Arbitration Boards, applications made to Labour Dept. for, by workmen of N.S. 148
Armstrong, S. A., appointment of, as Director of Military Hospitals Commission.. 115
Auditor General's Report, Vols. I, II, III and IV, 1916.. 1

B

Battalion, 210th, respecting the locating of, at Regina and Moosejaw.. 270
Baugh, Edward Levi, *re* release of, from Penitentiary.. 219
Beam Trawlers of U. S., *re* privileges granted to respecting ports in U. S... 266

B

Beaver Harbour Wharf, Halifax Co., *re* repairs, etc., to in last four years.. .. 119
Boards of Concilliation, Industrial Disputes Act, etc., 1916.. .. .. 36*a*
Bonds and Securities, detailed statement of, 1916.. 63
Breakwater, *re* repairs on at Souris, P.E.I., years 1915 and 1916.. 127
Breakwater at Breen's Point, Co. of Antigonish, N.S., since 1911.. 128
Breakwater at Souris, P.E.I., correspondence *re* 1915-16.. 200
British Isles, natives of, number of enrolled in Canadian Regiments since 1914.. .. .. 143*a*
British Columbia, correspondence with Government of, with Dept. of Marine and Fisheries in B.C.. 269
British Columbia, between Imperial Government and *re* validation of certain Acts of.. 214
British Columbia, Hydrometric Survey 1915.. .. .. 25*e*
British Columbia, correspondence with Imperial Government, *re* validation Acts of Legislature of.. 214
Buildings and offices, number of rented by Government, in Ottawa years, 1914-15-16-17, etc.. 265
Bulls, thoroughbred sent to Co. of Dorchester, etc., Quebec.. 255
By-elections, year, 1916.. 18

C

Canadian Army Medical Service, report on, Gen. Baptie.. .. .. 90*a*
Canadian Army Medical Service, report on, Col. Bruce.. 90
Canadian Railways, correspondence *re* Commission respecting condition of, names of Commissioners.. 78
Canadian War Records Office, London, England, report of, to 1917.. 61
Canadian Manufacturers Association, correspondence with, *re* supplies for the front.. 159
Canadian Northern Railway, Order in Council, *re* 4-5 George V, chap. 20, S-15 185
Canadian War Records Office, report *re* from date of foundation to January 1917.. 61
Canadian ships, *re* requisitioning of, by Government.. 225
Canadian Northern Railway System, copy financial statements *re*.. 237
Canadian Northern Railway System, copy statements *re* advances made to by Government, etc.. .. .. 237*b*
Canadian Northern Railway System, copy of Mortgage Deed of Trust to Dominion Government.. .. .. 237*a*
Canadian Expeditionary Force, number of officers and men classed as unfit for service, etc.. 261
Canadian Biology 1915-1916.. .. .. .. 38*a*
Canadian Government Railways:—
Return *re* lands sold by, from October 1915, to September 30, 1916.. 68
Canals Statistics, 1916 . .. . 20a
Census Statistics of male population, ages of 20 and 45.. 194
Census Statistics *re* strength of Canadian Units in England, also in France, St. Lucia, etc.. .. .. 143*c*
Censors, Decoders, etc., names, addresses, etc., of.. 93
Censors, Decoders, etc., names, addresses, at Hazel Hill and Canso, N.S., 1916, amount expended, 1916.. 136
Civil Service:—
Number of permanent employees in Department of Finance, 1911.. .. .. 138*f*
Number of permanent employees in Department of Finance, up to 1917.. 138*e*
Number of permanent and temporary employees in Department of Indian Affairs.. 138
List of Canada, year 1916.. 30
Number of permanent employees in, in 1911—No. of added since.. .. .. .. 138*c*
Number of permanent employees in Department of Marine and Fisheries, No. added since.. .. .. 138*b*

C

Number of permanent employees in Department of Naval Affairs, No. added since.. .. .. 138*a*
Civil Service Insurance Act, 1916, statement respecting.. 57
Civil Service, statement *re* superannuation and retiring allowances, 1916.. 56
Civil Service, number of employees permanently in the Department of Militia and Defence in 1911 and 1917, etc.. 138
Civil Service, *re* pay to members of, in military service of Canada.. 188
Civil Service Commission, report of 1916. 31
Civil Service, number of, etc., Department of Justice.. .. .. 138*d*
Coal cargoes, report of Commission to inquire into conditions *re* delivery of.. 142
Coal operations, Order in Council appointing Director of, for B.C.. 212
Coal *re* District No. 18 of Alberta, documents, etc., B.C. coal operators association.. .. .. 212*a*
Cold Storage Companies in Canada, *re* price and amount of commodities sold by.. 210
Commission of Conservation, report of.. 73.
Commissions concerning soldiers *re* pensions, hospitals, etc., created since war. 236
Commissioner of Live Stock, province of Saskatchewan, names of persons employed with.. 252
Commissions, date and object of all appointed since 1911, to date.. 161
Conductors, brakemen, drivers and firemen, number of, on Canadian Government Railways, between Moncton and Campbellton.. 156
Conservation, Commission of, Report of, for year 1917.. 264
Cost of living, Report of W. F. O'Connor, Commissioner relating to.. .. .. 210*a*
Customs duties, refund of, etc., statement *re*.. 75
Customs, report of department of year 1916.. 11
Documents *re* Conciliation Board relating to employees at Pictou, N.S.. 104
List of all employees in 1916, in round house at Pirate Harbour, N.S.. .. 101
Number of persons appointed to, from January 1916, to March 31, 1917.. 175
Criminal Statistics for the year 1915.. .. 17

D

Dairy and cold storage commissioner, report of, year 1916.. .. .. 15*a*
Davidson, Sir Charles—
Report of, as Commissioner, evidence taken before, *re* war expenditures; also report of, *re* small arms ammunition; purchase of submarines and

D

military cloth (Auburn Woolen Mills Co.).. 60
Davies, William Company, Ltd., and Matthews-Blackwell, Ltd., Order in Council, *re* investigation.. .. .. 210*b*
Defence of Canada, order 1917.. 197
"Destructive Insect and Pest Act," regulations under.. 58
Dismissals:—
Mr. H. D. McKenzie of Stellarton, N.S.. 79
Frank Dunlop, of Sydney Mines.. 95
Mr. Spenny, trackmaster on short line, Canadian Government Railway, etc. 153
Léon Roy, as Interpreter to Department of Interior.. 154
D. McDermid, superintendent of Fish Hatchery, N.S.. 165
Moses H. Nickerson, Inspector of Life Saving stations, N.S.. 167
Augustin D. Lauteigne, postmaster of Island River, Gloucester Co., N.B.. 178
John R. McIntosh, postmaster, Cumming's Mountain, etc., N.S.. 180
John McDonald, janitor of Public building, Inverness, N.S.. 198
Hector Urquhart, Cape Breton Co., N.S., appointment of successor.. 201
Divorces, number of, granted in Canada by Parliament since 1867.. 98
Dominion Lands, Orders in Council *re* management of, in 40 mile railway belt, B.C.. 67
Dominion Lands, Orders in Council *re* "Railway Water Belt Act," 1916.. .. 66
Dominion Lands, Orders in Council *re* "Forest Reserves and Park Act," 1916. 65
Dominion Lands, Orders in Council *re* "Dominion Lands Act," 1916.. 69
Dominion Lands, Orders in Council *re* "Dominion Lands Survey Act," 1916.. 64
Dominion Police Force, account of, etc., 1916.. 59
Doukhobours, *re* exemption from Military service of.. 224
Dredging:—
Relating to work done at Ste. Anne de Bellevue, Pointe Fortune, Ottawa river, etc.. 123
Dredging at wharf at Isle Perrot, north and south, Dorion Bay channel, Vaudreuil, etc.. .. .. 123*a*
Dredging at Margaree Harbour, N.S., during 1913, 1914, 1915 and 1916.. .. 134
Dredging at Ste. Anne de Bellevue, Pointe Fortune, Ottawa Rivers, etc.. 241
Duchemin, H. P., Commissioner, *re* amount paid to.. 181
Duties, *re* payment of, on account of claims against certain provinces, by Minister of Justice.. 229

E

Employees, number of, in Departments of Labour, Interior, Public Works, etc. .. 217
Employees, names, salaries, etc., of, volunteering from Department of Interior and Indian Affairs.. 220
Enlistment of men for overseas service, number of, etc.. .. .. 143*a*
Estimates, year ending March 31, 1918.. 3
Estimates, supplementary, year ending March 31, 1917.. 4
Estimates, supplementary, year ending March 31, 1918.. 5
Exchequer Court, Copy of New Rule *re* practice and procedure in.. 100
Exchequer Court, Proceedings of *re* Indians on Sydney, N.S. Reserve.. .. 157
Exchequer Court, Proceedings *re* Quebec and Saguenay Railway, Quebec and Montmorency Railway, and Lotbinière Megantic.. .. .. 48*a*
Exchequer Court, Copy of Rule 200 of, *re* procedure.. .. .. 100*a*
Exhibition Train, correspondence *re* organization of, in France.. 205
Experimental Farms, Report of Director and Officers of, 1916.. 16
Exports in different commodities, amount of, for first nine months of present fiscal year.. 186
Express Statistics of Canada, year 1916 20*a*
Extension of Parliamentary term, etc., correspondence *re*.. 74
Extension of Parliamentary term, etc., further correspondence, *re*.. .. .. .. 74*a*
External Affairs, Report of Secretary of State for 1917.. 33

F

First Contingent, No. of Battalions of leaving Canada, etc.. 213
Fishing in the tidal waters of province of Quebec, relating to.. 251
Fish, dried, wine, etc., trade in between Portugal and Canada.. 97
Fish, scrap, names and P. O. addresses of purchasers of, from works at Canso, 1916.. 116
Fisher, Ward, Inspector of Fisheries, Western N.S., *re* disbursements of, 1912-1913.. 208
Food Controller for Canada, Order in Council, *re* appointment of.. .. .. .. 192*a*
Fuel Controller for Canada, Order in Council, relating to.. 192
Furloughs granted to men after enlistment for harvesting purposes.. 107

G

Geographic Board, Report of, for year 1916.. .. .. 25*d*

G

German nationality, number of persons of, employed in Departments of Service, etc.. 176
Giard, ex-M.P.P. for Compton, re employment of, by Government.. 223
Governor General's Warrants, on account of years 1916-1917.. 49
Governor General's Warrants, issued since adjournment of Parliament, February 1917.. .. .. 49a
Grain Commission, re report from, to Department of Trade and Commerce. 184
Grain Supervisors, Board of, Order in Council, respecting.. 193
Grand Trunk Pacific Railway, quantity of freight carried over, between Lévis and Moncton.. 80
Gravel, Mr. Alfred, re appointment of, etc., as Harbour Commissioner of Quebec.. 71
Grazing Leases, documents relating to.. 112
"Grilse," H.M.C.S. re inquiry into damages sustained by.. 164

H

Halifax and Eastern Railway, naming of Stations on.. 150
Halifax Herald, Evening Mail, and Royal Print and Lithographing Co., Halifax. 257
Hansard Translation Staff, correspondence with Chief of, 1917.. 215
Harbour improvements at Tracadie, Co. of Antigonish, N.S., 1916.. 126
Harrigan Cove Wharf, Halifax Co., repairs, etc., to, in 1914-1915.. 120
Harvesting furloughs granted to men after enlistment, etc.. 107
High Commissioner's Office, names of staff, etc.. 96
Horses for war purposes bought in Canada.. 92
Hydrometric Survey of British Columbia 1915.. .. .. 25e
Hydrometric Survey of Manitoba 1915.. 25f
Hydrometric Surveys (Stream Measurements). Report of 1915.. .. .. 25c

I

Immigration Service in city of Montreal, No. of persons, etc., employed in.. .. 83
Immigration Service and Land settlement, correspondence between Federal Government and provinces, re.. 82
Immigration of Supt. of, re advertising in United States newspapers for farm hands.. 113
Imperial War Conference, papers, re, 1917.. .. .. 42a
Imperial War Conference, extracts from Minutes of.. .. .. 42a

I

Indian Affairs, Report of Department of, year ended March 31, 1916.. 27
Inland Revenues, Reports, Returns and Statistics of, year ended March 31, 1916.. .. ..12, 13, 14
Insurance, Report of Superintendent of, year 1916.. 8
Insurance Coys. Abstract statement of, year 1916.. 9
Interior Department, number of clerks, etc., belonging to inside service, paid from outside service.. 81
Interior Department, Annual Report of, year ending March 31, 1916.. 25
Inverness Harbour, N.S., re opening of.. 248

J

Jones, C. G., Surgeon-General, Interim Report of, on Army Medical Service.. 90b
Judges, Province of Quebec, travelling expenses of, etc.. 174

K

Kelly, Thos., re treatment of, in Stony Mountain Prison.. 145
King's Regulations and Orders for the Army.. 193
King and Wallace Shipyards, Ltd., re contract for delivery of wooden auxiliary ship.. 267
Kitsilano Indian Reserve Report on.. .. 85

L

Labour report of, for year ending March 31, 1916.. 36
Lambert, Hyppolite, re cancellation of mail contract to.. 182
Lamond and Harrison, re contract for construction of one wooden auxiliary ship.. 267
Lebel, Polydore, re suspension of, as engineer on Intercolonial Railway, in 1916. 152
Le Blanc, Maurice, Department of Public Works, Co. of Bonaventure, re travelling expenses of.. 240
Librarians of Parliament, Report of Joint do.. 40
Liquor, Return re amount of, brought into Canadian Territories, 1916.. 147
List of shipping of Dominion of Canada to 1915.. 22
List of shareholders in Chartered Banks on December 31, 1915.. 6
Local Tribunals, Copy of "Gazette," 12th September, containing list of.. 276
Lucéville Station, I.C.Ry., re changing of name of Saint Luce, to.. 118
Lyall & Sons, re contract of, between Government and, for rebuilding Parliament Buildings.. 105

M

Mails:—
- Contract to J. C. Shields and others for carrying mails from Ashcroft to Fort George, B.C.. 139
- Documents *re* contract from Tatamagouche to New Annan, N.S.. 99
- Documents *re* contract between Grand River and Fourchu, N.S.. 231
- Rural routes established in Qu'Appelle since January 1916, also date of.. 272
- Mail route, change in Margaree-Inverness, to other points.. 273

Male persons, regulations *re* departure of, from Canada, Order in Council *re*.. 162
Manitoba Hydrometric Survey, 1915.. 25*f*
Manitoba Legislature Act passed by, amending the "Jury Act".. 140
Manual of Military Law, 1914.. 196
Margaree Harbour, pier at.. 246
Margaree Harbour, breakwater at.. 246*a*
Marine and Fisheries, Report of, years 1915-1916.. 21
Marine Agency at Pictou, N.S., *re* closing of, etc., in 1916.. 91
Marine and Fisheries, supplement to Report of, (Steamboat Inspection).. 23
Members of Parliament, names of, belonging to overseas forces, etc.. 109
Members of Parliament, names of, belonging to overseas forces, supplementary. 109*c*
Members of Parliament, names and number of, serving with forces.. 109*b*
Members of Parliament, names, supplementary.. 109*c*
Members of House of Commons, names of, serving or have served with Canadian army.. 109
Members of House of Commons, names of serving or have served with Canadian army.. 109*c*
Members of House of Commons, names of, number of, date of appointment, etc.. 109*b*
Members of House of Commons, serving or have served in Canadian army.. 109*c*
Merchandise, *re* quantity of, exported into foreign countries since August 1, 1914, etc.. 207
Military Hospital at Halifax, Report of Commission respecting.. 170
Military Hospitals Commission, Report of work of, to date 1917.. 158
Militia Council, Report of, year ending March, 31, 1916.. 35
Militia General Orders promulgated to, 1915 to 1917.. 94
Militia and Defence, ex-Minister of, correspondence between Premier and.. 160
Militia, Department of, *re* amount spent advertising for recruits in Canada.. 171

M

Military Staff, North Vancouver, names, duties, salaries, etc.. 235
Military Division No. 6, Halifax, names, occupation, salaries, etc.. 235*a*
Military Service Council, Order in Council, appointing to assist administration of Military Service Act.. 269
Mines Branch, Department of Mines, Report of 1915.. 26*a*
Mines Department, Geological Survey, Report.. 26
Miscellaneous Unforeseen Expenses, statement *re*, from 1916 to 1917.. 51

Mc

McCuaig, Clarence J., correspondence between Department Militia, and first purchasing committee.. 263
McFarlane, Dan, *re* claim of, against Department of Railways, 1917.. 151
McKee, A. J., and T. J. Drummond, The, vessels.. 149
McLeod, Sir Ezekiel, Hon. Louis Tellier, Report of *re* Hon. Robert Rogers.. 230

N

National Battlefields Commission, Statements *re* Receipts and Expenditures.. 55
National Service Board of Canada, Orders in Council, *re* establishment of.. 46
Naturalization, certificates of, to Alien enemies, Order in Council, recommending.. 275
Naval Service:—
- Amendments to regulations, *re* pay, allowances, and pensions to invalided men from Naval Service.. 43*g*
- Canadian Biology, 1915-1916.. 38*a*
- Copies of Orders in Council *re* superannuation of Blair Kent in Naval Service Department, also command money; Hardlying money; establishing rates of pensions; regulations for enrollment of men in volunteer Naval Reserve, and order made under War Measures Act *re* persons of enemy landing in Canada.. 43
- Copy Order in Council, *re* payment and Specialist allowances to overseas division.. 43*d*
- Extract from Order in Council, *re* Regulations respecting Separation Allowance payment.. 43*a*
- Extract Order in Council, No. 1783, *re* pay, allowances and pensions.. 43*e*
- Extract Order in Council, No. 1871, *re* pay, allowances and pensions.. 43*e*
- Radiotelegraph regulations, copy of amendment to.. 50*b*

N

Regulations *re* rank of Chief Skipper in.. .. .. 43*c*
Regulations *re* persons on stores, wharves, etc., on which ammunition is handled, Order in Council respecting.. .. .. 43*b*
Regulations *re* pay and allowances to men after discharge, Order in Council respecting.. .. .. 43*i*
Report of Department of, for year ending 1916.. 38
Report of Fisheries Branch of Naval Service, 1915-1916.. 39
Report of Department of year 1916.. 38
Travelling allowances, Officers and men of, also allowances *re* lodging, etc.. .. .. 43*f*
Defence of Canada, order, Order in Council *re*.. .. .. 45*h*
News print paper, Order in Council, *re* exportation, price, sale, transport, and control of.. 114
Newspapers, "Le Canada," "La Presse," "La Patrie," "Le Pays," "La Vigie," and "La Soleil," amounts.. 216

O

O'Connor, Commissioner, *re* cost of living, Reports of, *re* sugar.. 189
O'Connor, Commissioner, *re* cost of living, Reports of, *re* Anthracite coal.. 190
O'Connor, Commissioner, *re* cost of living, cold storage conditions in Canada.. 210*a*
Okanagan Telephone Coy.. 249
Oliver equipment.. 108
Overseas Forces, *re* number of applicants rejected on account of physical unfitness, etc 143
Overseas Forces, number of men enlisted for, number since discharged, and where. 143*a*
Orders in Council, Copies of:—
Re appointment of Parliamentary Under Secretary of State for External Affairs.. 41
Re appointment of Parliamentary Secretary, Department Militia and Defence.. 41
Re appointment Minister of Overseas Military Forces from Canada in United Kingdom.. 41
Respecting, wheat flour, and Semolina imported into Canada free of duty.. 106
Ottawa Improvement Commission, Receipts and Expenditures, 1916.. 53

P

Parliament Buildings, *re* claims of losses by fire at, 1916.. 238
Parliamentary National Service Commission, correspondence *re*.. 88
Parliamentary term, War extension of.. 71

P

Patriotic Fund, amounts subscribed and voted, amounts by provinces, counties, etc.. .. .. 110*a*
Patriotic Fund, amounts paid into, promised, etc.. 110
Patenaude, Hon. E. L., Letter of, to Prime Minister *re* resignation.. 206
Pearson's post office, Nipissing, change of location of.. 179
Penitentiaries, Report of Minister of Justice, year 1916.. 34
Pension Regulations, copies of Order in Council respecting.. 168
Pensions of officers or dependents, re exchange of, between Imperial and Canadian Governments.. .. .. 168*a*
Pensions and separation allowances, officers, warrant officers, etc.. 238
Pier at Margaree Harbour, N.S... 246
Postmaster General, Report of year ended March 31, 1916.. 24
Post Office, Canard and Splitlog, petitions, etc., *re*.. 89
Post Office, Pearson's *re* removal of, etc. 179
Post Office, Department, number in paid from outside service, names, salary, etc.. 227
Printing of Parliament, Reports of *re* economy in printing public documents. 183
Proprietary or Patent Medicine Act, *re* petitions for repeal of, from Physicians, etc.. 259
Public Accounts of Canada, year ended March 31, 1916.. 2
Public Works, Report of Minister of year ended March 31, 1916.. 19
Public Works, expenditures made by, since 1916 in different provinces of Canada, etc.. 130
Public Printing and Stationery, 1916.. 39

Q

Quebec and Saguenay Ry. Co., Quebec Railway, Light and Power Co., Lotbiniére and Megantic Railway Co., and Quebec Railway, Light, Heat and Power Co., copy of agreement between Government and.. 48
Quebec and Saguenay Railway Co., etc., Exchequer Court proceedings, *re*.. .. 48*a*
Quebec and Saguenay Railway Co., Judgment by court fixing price paid for, etc. 48*b*
Quebec City Board of Trade, correspondence between, and Premier *re* Report of Commission on Railways.. 239

R

Radiotelegraph Regulations, Amendments to, since 1914.. 50
Radiotelegraph Regulations, Amendments to *re* ship stations within Canadian harbours.. .. .. 50*a*

R

Railway Commissioners, Report of Board of year 1916.. .. .. 20a
Railway Transport Commission, Report of 1917.. .. .. 20g
Railway Subsidies, amounts expended in Canada years, 1912, 1913, 1914, and 1915.. 121
Railway Employees' Magazine, *re* establishment of, etc.. 155
Railways and Canals, Report of Department of year 1916.. 20
Railway Statistics 1916.. .. .. 20l
Rails taken up on G.T.P. Railway.. .. 146a
Rails, sent to France for use of, in war. 146
Recruiting Officers, chief, or special, names and rank of, since beginning of war.. 233
Recruiting in P. E. Island, names, addresses, etc., of parties engaged therein. 226a
Recruiting Officers, names and number of appointed in Province of Quebec, etc. 226
Recruiting of soldiers for overseas service, statistics *re*.. .. .. 143l
Refund of Customs duties, etc., statement *re*.. 75
Refund of Tolls or duties from Department of Marine and Fisheries 1916.. 75a
Registrars for purposes of Military Service Act, Order in Council, appointing to Provinces of Canada.. 277
Returned Soldiers, correspondence *re* between Federal and Provincial Governments.. 86
Returned Soldiers, Order in Council *re* preference in appointments to Civil Service.. 163
Returned soldiers, number of, receiving employment from the Government.. .. 218
Rogers, Hon. Robert, McLeod-Tellier, Report, *re*.. 230
Rogers evidence, exhibits, connected with McLeod-Tellier, Report concerning.. .. 230c
Rogers, Hon. Robt., correspondence between, and the Premier of Canada, *re* resignation.. 260
Roseberg, P. O. correspondence, *re* change of location of.. 177
Ross Rifle, Papers *re* withdrawal of, from service.. 44
Ross Rifle, Order in Council, *re* taking over of, by Government of Canada.. 111
Ross, Sir Charles, Copy of contracts, etc. 137
Ross Rifle, date, and number of last ordered, recommendation for, etc.. .. 34
Roy, Léon, appointment of, as interpreter Department of Interior, and also dismissal.. 154
Royal Canadian Navy, re allowance to accountant officers in receiving ships.. 77

R

Royal North West Mounted Police, cancellation of agreements between Governments of Manitoba, Saskatchewan and Alberta, *re* services in those provinces. 70
Royal North West Mounted Police, *re* terminations of agreements between Government of Canada and Provincial Governments.. .. .. 70a
Royal North West Mounted Police, Report of year 1916.. 28
Royal Society of Canada, statements of receipts and expenditures, 1916.. .. 54

S

Salmon Nets, correspondence *re* removal of, from parts of coast of Inverness Co.. 169
Salt, correspondence *re* supply of, for fisheries of Maritime Provinces.. 211
Sealers of B.C., documents *re* claims of, under last treaty with United States.. 268
Secretary of State, Report of year 1916. 29
Seed Commissioner, Order in Council, appointing, and authorizing purchase of seed wheat, etc.. 144
Seizure of certain fishing boats, tackle, etc., Straits of Northumberland, 1916 253
Sevigny, Hon. Albert, correspondence between, and Sergeant-at-Arms.. .. 187
Seventy-eighth Highlanders of N.S., name and rank of officers in 1914.. .. 262
Shields, J. C., Inland Express Co., contract for carrying mails from Ashcroft to Fort George, B.C.. 139
Ship Harbour Lake, N.S., *re* sale of timber from, to Mr. Andrew Webber.. .. 84
Sockeye Salmon, papers *re* prohibition of export of, from B.C.. 72
Soldiers, alleged maltreating of, in Quebec, evidence collected *re*.. 173
Southern Slav Committee, memo. presented by, *re* aspirations, claims, etc., of Slavs.. 228
State and Mines, Departments, number of employees in from 1911 to 1917, inclusive.. .. .. 138h
Statute passed by Manitoba, intituled: "An Act to amend the Jury Act," Papers, *re*.. 140
Stenographic reporting for different commissions, amount paid for.. 203
Stenographic reporting for different commissions, amount paid for.. .. .. .. 203a
Stoning of Troop trains, Report of Commission of inquiry.. 172
Storm Signals, *re* appointment of a man in charge of, at Grand Etang and Margaree Harbour.. 271
Sydney Daily Post, newspaper, *re* amounts paid to by Government since 1911.. .. 256

T

Tait, Sir Thomas, correspondence *re* appointment, etc., to National Service Board.. 87

Tait, Sir Thomas, correspondence additional *re* appointment, etc., to National Service Board.. .. .. 87*a*

Target practice rod, correspondence *re* between Department Militia, War Purchasing Commission, and British War Office.. 254

Telegraph Statistics of Canada, 1916.. .. 20*f*

Telephone Statistics of Canada, year 1916. 20*d*

Temporary Loans, Statement of, from 1916 to 1917.. 52

Territorial defence of Province of Quebec, correspondence with Armand Lavergne *re*.. 191

Thetford Mines, P.Q., correspondence *re* labour trouble at.. 103

Tidal waters of Province Quebec, rights of fishing in.. 251

Topographical Surveys Branch, Report of 1915-1916.. .. .. 25*l*

Trade and Commerce:—

Report of Department of, Part I, 1916. 10

Report of Department of, Part II, 1916 10*c*

Report of Department of, Part III, 1916.. .. .. 10*d*

Report of Department of, Part IV, 1916.. .. .. 10*e*

Report of Department of, Part V, 1916.. .. .. 10*e*

Report of Department of, Part I, 1916.. .. .. 10*e*

Report of Department of, Part VII, 1916.. .. .. 10*g*

Trade Unions, Annual Return, *re*.. 62

Trade Commission to Great Britain, France and Italy, 1916, Report of.. 221

Transcontinental Railway, Report of Commission of, 1916.. 37

Transcontinental Railway, List of points where rails removed.. .. .. 146*l*

Transcontinental Railway, List of points where rails removed.. .. .. 146*e*

Tribunals, Local, Copy of Gazette containing list of.. 276

U

Unclaimed Balances in chartered banks of Canada, December 31, 1915.. .. 7

V

Vale Railway, Copy of agreement concerning lease of.. 47

Vancouver, Documents *re* purchase of land in, for purpose of an Armoury since 1913.. 232

Veterinary Director General, Report of year 1916.. .. .. 15*l*

Victoria Bridge, Montreal, Copy of Order in Council, increasing toll rates on.. 117

W

War Purchasing Commission, Report of 1915 to 1916, inclusive.. 45

War Conference, Papers relating to, in 1917.. 42

War Measures Act, *re* British ships in Canada, etc., requisition of, for war purposes.. 135

War Badges, Rules and Regulations *re* for members of Canadian Expeditionary Force.. 274

Ward Fisher, Inspector of Fisheries, Western Nova Scotia, disbursements of 1912-1913.. 208

Wet Canteen system overseas, correspondence *re* abolishment of.. 204

Wharves:—

" at Upper Prospect, N.S., 1915.. .. 124

" at Shad Bay, repairs to, in 1915.. 125

" at Mushaboom Harbour, N.S., in 1913.. 129

" at Port Dufferin West, Halifax Co., N.S., in 1913-14.. 131

" at Port Dufferin East, Halifax Co., N.S., in 1916.. 132

" at Ecum Secum West, Halifax Co., N.S., construction of, at.. 133

" at McKay's Point, extension of and repairs to.. 199

" at Craignish, N.S.. 202

" at Harrigan Cove, Halifax Co., N.S., repairs to, in 1914-1915.. 120

" at Isle Perrot, Vaudreuil, Pointe Cavagnal, Hudson, etc.. .. .. .. 122*b*

" at Finlay Point, N.S.. 242

" Breakwaters, etc., Co. of Antigonish, N.S.. 243

" of the Government at Crose Point, New Carlisle, etc., Quebec.. 244

" at Marble Mountain, N.S.. 245

" at Port Hood, N.S.. 247

Correspondence *re* wharves at Isle Perrot Sud, Vaudreuil, Pointe Cavagnal, etc.. 122

" Correspondence *re* wharves at Isle Perrot North, South, Vaudreuil, Pointe Cavagnal, Hudson, etc.. .. 122*a*

Wharves, Breakwaters and other public works, Co. of Guysboro, N.S.. 250

Wheat, wheat flour, semolina, Order in Council *re*.. 106

Whitehead, N.S., life saving station at, Order in Council referring to.. 278

Willis Kelzer, application of *re* Fishing weir at Square Cove, N.S.. .. .. 16*c*

Wooden Auxiliary Sailing Ships, Contracts for,—

Y

Yukon Territory, Ordinances of.. 76

Yukon Territory, Orders in Council *re* Government of.. .. .. 76*a*

Yukon Territory, Orders in Council *re* Government of 1917.. .. .. 76*b*

LIST OF SESSIONAL PAPERS

Arranged in Numerical Order, with their titles at full length; the dates when Ordered and when Presented to the Houses of Parliament; the Names of the Senator or Member who moved for each Sessional Paper, and whether it is ordered to be Printed or not Printed.

CONTENTS OF VOLUME 1.

(This volume is bound in three parts.)

1. Report of the Auditor General for the year ended 31st March, 1916, Volume 1, Parts a b and A to K; Volume II, Parts L to U; Volume III, Parts V to Z; Volume IV, Part ZZ. Presented by Sir George Foster April 19, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 2.

2. The Public Accounts of Canada, for the fiscal year ended March 31, 1916. Presented by Sir Thomas White, February 1, 1917...*Printed for distribution and sessional papers.*

3. Estimates of sums required for the service of the Dominion for the year ending on the 31st March, 1918, and in accordance with the provisions of "The British North America Act, 1867," the Governor General recommends these Estimates to the House of Commons. Presented by Sir Thomas White, January 31, 1917.
Printed for distribution and sessional papers.

4. Supplementary Estimates of sums required for the service of the Dominion for the year ending on the 31st March, 1917, and, in accordance with the provisions of "The British North America Act, 1867," the Governor General recommends these Estimates to the House of Commons. Presented by Sir Thomas White, February 5, 1917.
Printed for distribution and sessional papers.

5. Supplementary Estimates of sums required for the service of the Dominion for the year ending on the 31st March, 1918. Presented by Sir Thomas White, August 17, 1917.
Printed for distribution and sessional papers.

6. List of Shareholders in the Chartered Banks of the Dominion of Canada as on December 31, 1915. Presented by Sir Thomas White, January 25, 1917.. .. .. ..*Not printed.*

7. Report on certified cheques, drafts or bills of exchange, dividends remaining unpaid and unclaimed balances in Chartered Banks of the Dominion of Canada, for five years and upwards prior to December 31, 1915. Presented by Sir Thomas White, January 25, 1917.. .. .. .

CONTENTS OF VOLUME 4.

10. Report of the Department of Trade and Commerce for the fiscal year ended 31st March, 1916: Part I.—Canadian Trade (Imports in and Exports from Canada). Presented by Sir George Foster, April 19, 1917.. ..*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 5.

10*a*. Report of the Department of Trade and Commerce for the fiscal year ended March 31, 1916:—Part II.—Canadian Trade with France, Germany, the United Kingdom and the United States. Presented by Sir George Foster, January 25, 1917.
Printed for distribution and sessional papers.

10*b*. Report of the Department of Trade and Commerce for the fiscal year ended March 31, 1916.—Part III.—Canadian Trade with British and Foreign Countries (except France, Germany, United Kingdom and United States). Presented by Sir George Foster, April 19, 1917... .. ..*Printed for distribution and sessional papers.*

10*c*. Report of the Department of Trade and Commerce for the fiscal year ended March 31, 1916 (Part IV, Miscellaneous Information). Presented by Sir George Foster, June 4, 1917.. .. ..*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 6.

10*d*. Report of the Department of Trade and Commerce, Part V—Grain Statistics, compiled by the Inspection Branch of the Department, Ottawa, for the fiscal year ended March 31, 1916, the crop year ended August 31, 1916, and the season of navigation ended December 14, 1916; and Report of the Board of Grain Commissioners Presented by Sir George Foster, June 8, 1917.. .. *Printed for distribution and sessional papers.*

10*e*. Report of the Department of Trade and Commerce, for the fiscal year ending March 31, 1916 (Part VI.—Subsidized Steamship Services, with Statistics showing Steamship Traffic to December 31, 1916, and Estimates for fiscal year 1917-1918). Presented by Sir George Foster, May 3, 1917... ..*Printed for distribution and sessional papers.*

10*f*. Report of the Department of Trade and Commerce for the fiscal year ended March 31, 1916: Part VII—Trade of Foreign Countries, Treaties and Conventions Presented by Sir George Foster, 1917.. .. ..*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 7.

11. Report of the Department of Customs for the year ended March 31, 1916. Presented by Hon. Mr. Reid, January 29, 1917.. ..*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 8.

12, 13, 14. Reports, Returns and Statistics of the Inland Revenues of the Dominion of Canada, for the fiscal year ended March 31, 1916. Part I.—Excise. Part II.—Weights and Measures, Gas and Electricity. Part III.—Adulteration of Food. Presented by Sir James Lougheed, January 26, 1917...*Printed for distribution and sessional papers.*

15. Report of the Minister of Agriculture for the Dominion of Canada, for the year ended March 31, 1916. Presented by Hon. Mr Burrell, January 26, 1917.
Printed for distribution and sessional papers.

15*a*. Report of the Dairy and Cold Storage Commissioner for the fiscal year ending March 31, 1916. (Dairying, Fruit, Extension of Markets and Cold Storage.) Presented by Hon. Mr. Burrell, 1917.. .. ..*Not printed.*

CONTENTS OF VOLUME 8—*Concluded.*

15*b*. Report of the Veterinary Director General for the year ending March 31, 1916. Presented by Hon. Mr. Burrell, 1917... .. ..*Printed for distribution and sessional papers.*

15*c*. Report on "The Agricultural Instruction Act," 1915-16, pursuant to Section 3, Chapter 5 of 3-4 George V. Presented by Hon. Mr. Patenaude, January 31, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 9.

(This volume is bound in two parts.)

16. Report of the Director and Officers of the Experimental Farms for the year ending 31st March, 1916.—Volumes I, II and III. Presented by Sir George Foster, August 13, 1917.
Printed for distribution and sessional papers.

17. Criminal Statistics for the year ended September, 1915. (Appendix to the Report of the Minister of Trade and Commerce for the year 1915.) Presented by Sir George Foster, 1917. .. ..*Printed for distribution and sessional papers*

18. Return of By-elections for the House of Commons of Canada held during the year 1916. Presented by Hon. Mr. Speaker, 1917.. .. ..*Not printed.*

CONTENTS OF VOLUME 10.

19. Report of the Minister of Public Works on the works under his control for the fiscal year ended March 31, 1916. Presented by Hon. Mr. Rogers, January 26, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 11.

20. Annual Report of the Department of Railways and Canals, for the fiscal year from April 1, 1915, to March 31, 1916. Presented by Hon. Mr. Cochrane, April 19, 1917.
Printed for distribution and sessional papers.

20*a*. Canal Statistics for the season of Navigation, 1916. Presented by Hon. Mr. Reid, May 7, 1917... .. ..*Printed for distribution and sessional papers.*

20*b*. Railway Statistics of the Dominion of Canada, for the year ended 30th June, 1916. Presented by Hon. Mr. Cochrane, April 24, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 12.

20*c*. Eleventh Report of the Board of Railway Commissioners for Canada, for the year ending 31st March, 1916. Presented by Hon. Mr. Cochrane, January 23, 1917.
Printed for distribution and sessional papers.

20*d*. Telephone Statistics of the Dominion of Canada, for the year ended June 30, 1916. Presented by Hon. Mr. Cochrane, April 19, 1917.
Printed for distribution and sessional papers.

20*e*. Express Statistics of the Dominion of Canada, for the year ended June 30, 1916. Presented by Hon Mr. Cochrane, April 25, 1917.
Printed for distribution and sessional papers.

20*f*. Telegraph Statistics of the Dominion of Canada, for the year ended June 30, 1916. Presented by Hon. Mr. Cochrane, April 19, 1917.
Printed for distribution and sessional papers.

20*g*. Report of the Royal Commission appointed to consider the general problem of transportation in Canada, comprising:—Report of Sir H. F. Drayton and Mr. W. M. Acworth; Report of Mr. A. H. Smith; and, Appendices A and B, being Report of Appraisal of Canadian Northern Railway System and Grand Trunk Pacific Railway, by Mr. Geo. F. Swain, C.E. Presented by Sir Thomas White, May 2, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 13.

21. Forty-ninth Annual Report of the Department of Marine and Fisheries, for the year 1915-16—Marine. Presented by Hon. Mr. Hazen, January 23, 1917.
Printed for distribution and sessional papers.

22. List of Shipping issued by the Department of Marine and Fisheries, being a list of vessels on the Registry Books of the Dominion of Canada, on the 31st day of December, 1916. Presented by Hon. Mr. Hazen, September 4, 1917.
Printed for distribution and sessional papers.

23. Supplement to the Forty-ninth Annual Report of the Department of Marine and Fisheries for the fiscal year 1915-16. (Marine)—Steamboat Inspection Report. Presented by Hon. Mr. Hazen, April 19, 1917... ..*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 14.

24. Report of the Postmaster General for the year ended 31st March, 1916. Presented by Hon. Mr. Blondin, February 1, 1917...*Printed for distribution and sessional papers.*

25. Annual Report of the Department of the Interior, for the fiscal year ending March 31, 1916. Presented by Hon. Mr. Roche, January 22, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 15.

25*b*. Annual Report of the Topographical Surveys Branch of the Department of Interior, 1915-16. Presented by Hon. Mr. Roche, June 19, 1917.
Printed for distribution and sessional papers.

25*c*. Report of Hydrometric Surveys (Stream Measurements), for the calendar year 1915. Presented by Hon. Mr. Roche, April 19, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 16.

25*d*. Fifteenth Report of the Geographic Board of Canada for year ended March 31, 1916. Presented, 1917.. .. ..*Not printed.*

25*e*. Report of the British Columbia Hydrometric Survey for the calendar year 1915 (Water Resources Paper No. 18 of the Dominion Water Power Branch, Department of the Interior). Presented by Hon. Mr. Roche, July 5, 1917.
Printed for distribution and sessional papers.

25*f*. Progress Report of the Manitoba Hydrometric Survey for the calendar year 1915 (Water Resources Paper No. 19 of the Dominion Water Power Branch, Department of the Interior). Presented by Hon. Mr. Roche, July 7, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 17.

26. Summary Report of the operations of the Geological Survey, Department of Mines, for the calendar year, 1916. Presented by Hon. Mr. Meighen, August 28, 1917.
Printed for distribution and sessional papers.

26*a*. Summary Report of the Mines Branch of the Department of Mines, for the calendar year ending 31st December, 1915. Presented by Hon. Mr. Patenaude, April 19, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 18.

27. Report of the Department of Indian Affairs for the year ended March 31, 1916. Presented by Hon. Mr. Roche, January 22, 1917.
Printed for distribution and sessional papers.

28. Report of the Royal Northwest Mounted Police, 1916. Presented by Sir Robert Borden, April 19, 1917.. .. ..*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 19.

29. Report of the Secretary of State of Canada for the year ended March 31, 1916. Presented by Hon. Mr. Roche, August 18, 1917... ..*Printed for distribution and sessional papers.*

30. The Civil Service List of Canada for the year 1916. Presented 1917.
Printed for distribution and sessional papers.

31. Eighth Annual Report of the Civil Service Commission of Canada for the year ended August 31, 1916. Presented by Hon. Mr. Patenaude, April 19, 1917.
Printed for distribution and sessional papers.

32. Annual Report of the Department of Public Printing and Stationery for the fiscal year ended March 31, 1916. Presented by Sir Robert Borden, July 31, 1917.
Printed for distribution and sessional papers.

33. Report of the Secretary of State for External Affairs for the year ended March 31, 1917. Presented 1917... .. ..*Printed for distribution and sessional papers.*

CONTENTS OF VOLUME 20.

34. Report of the Minister of Justice as to the Penitentiaries of Canada for the fiscal year ending March 31, 1916. Presented 1917...*Printed for distribution and sessional papers.*

35. Report of the Militia Council for the Dominion of Canada, for the fiscal year ending March 31, 1916. Presented by Sir A. E. Kemp, February 3, 1917.
Printed for distribution and sessional papers.

36. Report of the Department of Labour for the fiscal year ending March 31, 1916. Presented by Hon. Mr. Crothers, January 22, 1917.
Printed for distribution and sessional papers.

36a. Ninth Report of the Registrar of Boards of Conciliation and Investigation of the proceedings under "The Industrial Disputes Investigation Act, 1907," for the fiscal year ending March 31, 1916. Presented by Hon. Mr. Crothers, January 22, 1917.
Printed for distribution and sessional papers.

37. Twelfth Annual Report of the Commissioners of the Transcontinental Railway, for the year ended March 31, 1916. Presented by Hon. Mr. Cochrane, April 19, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 21.

38. Report of the Department of the Naval Service, for the fiscal year ending March 31, 1916. Presented by Hon. Mr. Hazen, January 22, 1917.
Printed for distribution and sessional papers.

38a. Supplement to the Sixth Annual Report of the Department of Naval Service, Fisheries Branch,—Contributions to Canadian Biology, being studies from the biological stations of Canada, 1915-1916. Presented by Hon. Mr. Hazen, June 4, 1917.
Printed for distribution and sessional papers.

38c. Lobster Conservation in Canada, by A. P. Knight, M.A.
Printed for distribution and sessional papers.

39. Forty-ninth Annual Report of the Fisheries Branch of the Department of the Naval Service, 1915-16. Presented by Hon. Mr. Hazen, January 22, 1917.
Printed for distribution and sessional papers.

CONTENTS OF VOLUME 21—*Continued.*

40. The Report of the Joint Librarians of Parliament. Presented by Hon. Mr. Speaker, January 19, 1917... .. ..*Not printed.*

41. Copies of Orders in Council, as follows:—

P.C. 1917, dated the 15th day of July, 1916, respecting the appointment of a Parliamentary Under Secretary of State for External Affairs during the continuance of the war.

P.C. 2576, dated the 21st day of October, 1916, respecting the appointment of Hugh Clark, Member of the House of Commons for the Electoral District of North Bruce, to the position of Parliamentary Under Secretary for Exernal Affairs, during the continuance of the present war.

P.C. 1720, dated the 15th day of July, 1916, respecting the appointment of a Parliamentary Secretary of the Department of Militia and Defence, during the continuance of the present war.

P.C. 1730, dated the 19th day of July, 1916, respecting the appointment of Fleming Blanchard McCurdy, Member of the House of Commons for the Electoral District of Shelburne and Queens, to the position of Parliamentary Secretary of the Department of Militia and Defence, during the continuance of the present war.

P.C. 2651, dated the 28th day of October, 1916, respecting the establishment of a ministry in London charged with the administration of the overseas forces of Canada, and the direction and control of the expenditures abroad in connection therewith.

P.C. 2656, dated the 31st day of October, 1916, respecting the appointment of Honourable Sir George Halsey Perley, to the position of Minister of Overseas Military Forces from Canada in the United Kingdom. Presented by Sir Robert Borden, January 18, 1917.. .. ..*Printed for sessional papers only.*

42. Papers relating to the Imperial War Conference, 1917. Presented by Sir Robert Borden, January 22, 1917.. .. ..*Printed for sessional papers only.*

42*a*. Copy of a Parliamentary Paper (Cd. 8566), containing extracts from the Minutes of the Proceedings of the Imperial War Conference, 1917, and Papers laid before the Conference. Presented by Sir Robert Borden, June 15, 1917.

Printed for distribution and sessional papers.

43. Copies of Orders in Council, as follows:—

P.C. 64-15-25, dated the 29th June, 1916, authorizing the superannuation of Mr. Silas Blair Kent, a clerk in Sub-division "B" of the First Division, employed as chief fishing bounty officer of the Naval Service Department.

P.C. 3192, dated 30th December, 1916, Regulations governing the payment of Separation Allowance in the Royal Canadian Navy and Royal Naval Canadian Volunteer Reserve.

P.C. 3108, dated 19th September, 1916, Regulations governing payment of "Command Money" to officers on "Special Service," etc., in the Royal Canadian Navy.

P.C. 2942, dated 29th November, 1916, Regulations governing payment of "Hardlying Money" in the Royal Canadian Navy.

P.C. 2442, dated 11th October, 1916, Amendment to Order in Council P.C. 1334, dated 3rd June, 1916, establishing Rates of Pensions for the Military and Naval Forces of Canada.

P.C. 2130, dated 9th September, 1916, Regulations for enrolment of men in the Royal Canadian Volunteer Reserve for service in the Royal Navy.

P.C 1939, dated 18th August, 1916, Order made under War Measures Act, 1914, to reduce risk of persons of enemy nationality landing in Canada under guise of neutrals. Presented by Hon. Mr. Hazen, January 22, 1917... .. ..*Not printed.*

43*a*. Copy of extract from Order in Council No. P.C. 942, dated 5th April, 1917, with reference to Regulations governing the Payment of Separation Allowance in the Royal Canadian Navy. Presented by Hon. Mr. Hazen, June 11, 1917.. .. ..*Not printed.*

43*b*. Copy of extract from Order in Council No. P.C. 1397, dated 21st May, 1917: Rules and Regulations to apply to persons who are employed in or who are in or in the vicinity of any store, wharf, etc., in or upon which any ammunition, etc., is handled. Presented by Hon. Mr. Hazen, June 14, 1917... .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

43*c*. Copy of Extract from Order in Council No. P.C. 1576, dated 11th June, 1917: Regulations instituting the rank of Chief Skipper and Skipper in the Royal Canadian Navy. Presented by Hon. Mr. Hazen, June 20, 1917.. .. ..*Not printed.*

43*d*. Copy of Order in Council, P.C. 69/1774, dated 28th June, 1917, containing Regulations for the Payment of Specialist Allowance to R.N.C.V.R. and R.N.C.V.R Overseas Division. Presented by Hon. Mr. Hazen, July 9, 1917.. .. ..*Not printed*

43*e*. Copy Extract from Order in Council, P.C. No 1783, dated 29th June, 1917:—Rules and Regulations governing the issue of Pay, Allowances and Pensions, Department of the Naval Service—Copy Extract from Order in Council, P.C No. 1871, dated 6th July, 1917; —Amendment to the Regulations for the payment of Separation Allowance to the dependents of those on Active Service under the Naval Service Department. Presented by Sir James Lougheed, July 12, 1917 (Senate)... .. ..*Not printed.*

43*f*. Extract from Order in Council, P.C. 1993 of the 17th July, 1917: Scale of Subsistence Allowances to Officers and men of the Naval Service when travelling on duty.—And also.—Extract from Order in Council, P.C 1994 of the 17th July, 1917: Scale of Allowances in lieu of lodging, provisions, fuel and light, for Officers and men of the Naval Service. Presented by Hon. Mr. Hazen, August 6, 1917.. .. ..*Not printed.*

43*g*. Extract from Order in Council, P.C 2105, dated 9th August, 1917: Amendments to regulations for the issue of pay, allowances and pensions to officers, warrant officers and men invalided, etc., from the Naval Service Presented by Hon. Mr Hazen, August 27, 1917... .. ..*Not printed.*

43*h*. Extract from Order in Council ("Defence of Canada Order"), P.C. No. 2277, dated the 17th August, 1917:—Amendments respecting Naval Service The Senate..*Not printed.*

43*i*. Extract from Order in Council, No P.C. 2433, dated 1st September, 1917:—Regulations *re* Pay and Allowances to Officers and Men after discharge from the Canadian Naval Service. The Senate.. .. ..*Not printed.*

44. Correspondence relating to the withdrawal of the Ross Rifle from the Canadian Army Corps Presented by Sir Robert Borden, January 22, 1917.
Printed for sessional papers only.

45. Report of the War Purchasing Commission, covering period from its appointment on May 8, 1915, to December 31, 1916 Presented by Hon. Mr. Kemp, January 23, 1917.
Not printed.

46. Copies of Orders in Council respecting the establishment of a National Service Board of Canada, and appointments thereto, under the provisions of the War Measures Act, 1914. Presented by Sir Robert Borden, January 23, 1917.
Printed for sessional papers only.

47. Copy of Agreement between His Majesty the King and The Acadia Coal Company, Ltd., concerning the lease of the Vale Railway Presented by Hon. Mr. Cochrane, January 23, 1917... .. ..*Not printed.*

48. Copy of Agreement between His Majesty the King and The Quebec and Saguenay Railway Co., The Quebec Railway Light, and Power Co The Lotbinière and Megantic Railway Co., and The Quebec Railway Light Heat and Power Co., respecting the acquisition by the Government of the said railways. Presented by Hon. Mr. Cochrane, January 23, 1917.. .. ..*Not printed.*

48*a*. Return to an Order of the House, of the 23rd April, 1917, for a copy of all proceedings in the Exchequer Court of Canada, and judgment of Mr. Justice Cassels concerning the reference of the Quebec and Saguenay Railway, the Quebec and Montmorency Railway and the Lotbinière and Megantic Railway. Presented June 21, 1917. Mr. Lemieux.
Not printed.

CONTENTS OF VOLUME 21—*Continued.*

48*b*. Return to an Order of the House, of the 14th May, 1917, for a copy of the judgment delivered by Mr. Justice Cassels on the 24th day of January, 1917, in the matter of fixing the price to be paid by the Government for the Quebec, Montmorency and Charlevoix Railway, the Quebec and Saguenay Railway, and the Lotbinière and Megantic Railway, under the statute of last session, Chapter 22, 6-7 George V. Presented June 27, 1917. Mr. Graham.. .. ..*Not printed.*

49. Statement of Governor General's Warrants issued since the last Session of Parliament on account of 1916-17. Presented by Sir Thomas White, January 25, 1917.
Not printed.

49*a*. Statement of Governor General's Warrants issued since the adjournment of Parliament on February 7, 1917. Presented by Sir Thomas White, April 24, 1917..*Not Printed.*

50. Copy of Amendments to the Radiotelegraph Regulations since the 1st August, 1914. Presented by Hon. Mr. Hazen, January 25, 1917... .. ..*Not printed.*

50*a*. Copy of Amendment to subsection (*d*) of section 104 of the Radiotelegraph Regulations; Operation of ship stations within a Canadian harbour. Presented by Hon. Mr. Hazen, January 29, 1917.. .. .. *Not printed.*

50*b*. Copy of Amendment to Radiotelegraph Regulations issued by the Minister of the Naval Service, under Section 11, Chapter 43, of the Radiotelegraph Act, 3-4 George V. Presented by Hon. Mr. Hazen, April 19, 1917.. .. ..*Not printed.*

51. Statement of Expenditure on account of "Miscellaneous Unforeseen Expenses," from the 1st April, 1916, to the 18th January, 1917, in accordance with the Appropriation Act of 1916. Presented by Sir Thomas White, January 25, 1917... .. ..*Not printed.*

52. Statement of Temporary Loans issued since April 1, 1916, to 18th January, 1917. Presented by Sir Thomas White, January 25, 1917... .. ..*Not printed.*

53. Report and Statement of Receipts and Expenditures of the Ottawa Improvement Commission to March 31, 1916. Presented by Sir Thomas White, January 25, 1917.
Not printed.

54. Statement of the Receipts and Expenditures of the Royal Society of Canada, for the year ended April 30, 1916. Presented by Sir Thomas White, January 25, 1917...*Not printed.*

55. Statement of Receipts and Expenditures of the National Battlefields Commission to 31st March, 1916. Presented by Sir Thomas White, January 25, 1917.. ..*Not printed.*

56. Statement of Superannuation and Retiring Allowances in the Civil Service during the year ending 31st December, 1916, showing name, rank, salary, service allowance and cause of retirement of each person superannuated or retired, also whether vacancy has been filled by promotion, or by appointment, and the salary of any new appointee. Presented by Sir Thomas White, January 25, 1917... .. ..*Not printed.*

57. Statement in pursuance of Section 17 of the Civil Service Insurance Act, for the year ending March 31, 1916. Presented by Sir Thomas White, January 25, 1917.
Not printed.

58. Regulations under "The Destructive Insect and Pest Act," pursuant to Section 9, Chapter 31 of 9-10 Edward VII. Presented by Hon. Mr. Burrell, January 26, 1917.
Not printed.

59. Account of the average number of men employed on the Dominion Police Force during each month of the year 1916, and of their pay and travelling expenses, pursuant to Chapter 92, Section 6, Subsection 2, of the Revised Statutes of Canada. Presented by Hon. Mr. Doherty, January 26, 1917... .. ..*Not printed.*

60. Copy of the evidence taken before the Hon. Sir Charles Davidson, Kt., Commissioner appointed to inquire into the purchase by and on behalf of the Government of the Dominion of Canada, of Arms, Munitions, Implements, Materials, Horses, Supplies, and other things for the purpose of the present war, and as to the expenditures and payments made or agreed to be made therefor; together with the Report of the said Commissioner concerning the sale of Small Arms Ammunition; purchase of Submarines, and Military Cloth (Auburn Woollen Mills Co.). Presented by Hon. Mr. Meighen, January 30, 1917.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

61. Report submitted by the officer in charge of the Canadian Records Office, London, Eng., to The Right Honourable Sir Robert Borden, G.C.M.G., M.P., Prime Minister of Canada, on the work of the Canadian War Records Office since the date of its foundation to the 11th January, 1917. Presented by Sir Robert Borden, January 31, 1917.
Not printed.

62. Annual Return respecting Trade Unions under Chapter 125, R.S.C., 1906. Presented by Hon. Mr. Patenaude, January 31, 1917.. .. ..*Not printed.*

63. A detailed statement of all bonds or securities registered in the Department of the Secretary of State of Canada, since last return (22nd January, 1916) submitted to the Parliament of Canada under Section 32 of Chapter 19, of the Revised Statutes of Canada, 1906. Presented by Hon. Mr. Blondin, January 31, 1917... ..*Not printed.*

64. Return of Orders in Council which have been published in the *Canada Gazette*, between the 1st January, 1916, and the 31st December, 1916, in accordance with the provisions of Section 5 of "The Dominion Lands Survey Act," Chapter 21, 7-8 Edward VII. Presented by Hon. Mr. Roche, February 1, 1917.. .. ..*Not printed.*

65. Return of Orders in Council which have been published in the *Canada Gazette*, between 1st January, 1916, and the 31st December, 1916, in accordance with the provisions of "The Forest Reserves and Park Act," Section 19, of Chapter 10, 1-2 George V. Presented by Hon. Mr. Roche, February 1, 1917.. .. ..*Not printed.*

66. Return of Orders in Council which have been published in the *Canada Gazette*, between the 1st January, 1916, and the 31st December, 1916, in accordance with the provisions of Chapter 47, 2 George V, entitled "The Railway Belt Water Act." Presented by Hon. Mr. Roche, February 1, 1917... .. ..*Not printed.*

67. Return of Orders in Council which have been published in the *Canada Gazette* and in the British Columbia *Gazette*, between 1st January, 1916, and the 31st December, 1916, in accordance with provisions of Subsection *(d)* of Section 38 of the regulations for the survey, administration, disposal and management of Dominion Lands within the 40-mile Railway Belt in the Province of British Columbia. Presented by Hon. Mr. Roche, February 1, 1917.. .. ..*Not printed.*

68. Return showing all lands sold by the Canadian Pacific Railway Company during the year, from the 1st October, 1915, to 30th September, 1916, together with the names of the purchasers, in accordance with the Statutes of Canada, 1886, Chapter 9, Section 8. Presented by Hon. Mr. Roche, February 1, 1917.. .. ..*Not printed.*

69. Return of Orders in Council which have been published in the *Canada Gazette*, between 1st January, 1916, and the 31st December, 1916, in accordance with the provisions of Section 77 of "The Dominion Lands Act," Chapter 20, 7-8 Edward VII. Presented by Hon. Mr. Roche, February 1, 1917.. .. ..*Not printed.*

70. Certified copies of Reports of the Committee of the Privy Council, approved by His Excellency the Governor General on the 29th November, 1916, giving authority for the cancellation on and from the 1st January, 1917, of the agreements between the Government of Canada and the Governments of Manitoba, Saskatchewan and Alberta, respectively, respecting the services of the Royal North West Mounted Police in those provinces. Presented by Sir Robert Borden, February 1, 1917.
Printed for sessional papers only

70a. Return to an Address to His Excellency the Governor General, of the 31st January, 1917, for a copy of all documents, letters, messages, correspondence, etc., respecting the termination of the agreements between the Government of Canada and the Governments of the Provinces of Saskatchewan and Alberta in reference to the Royal North West Mounted Police. Presented June 1, 1917. Mr. McCraney.. .. ..*Not printed.*

71. Return to an Order of the House, of the 20th March, 1916, for a copy of all telegrams, letters and correspondence concerning the appointment of Mr. Alfred Gravel, Harbour Commissioner of Quebec, and concerning all other candidates for the position of Commissioner on the Harbour Board of Quebec, to represent the South Shore. Presented February 2, 1917. Mr. Bourassa... .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

72. Return to an Address to His Royal Highness the Governor General, of the 2nd February, 1914, for a copy of all Orders in Council, correspondence, petitions, telegrams and other papers or documents bearing date between the years 1885 and 1914 in any way relating to the prohibition of the export of Sockeye Salmon from the Province of British Columbia. Presented February 2, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

73. Seventh Annual Report of the Commission of Conservation for the fiscal year ending March 31, 1916. Presented by Hon. Mr. Hazen, February 5, 1917.. .. ..*Not printed.*

74. Copy of correspondence between Sir Robert Borden and Sir Wilfrid Laurier respecting proposals for the extension of the term of Parliament, November 3, 1915, to January 3, 1917. Presented by Sir Robert Borden, May 23, 1917.

Printed for sessional papers only.

75. Detailed Statement of Customs Duties and the Refund thereof, under Section 92, Consolidated Revenue Act, for the year ended March 31, 1916. (Senate)... ..*Not printed.*

75*a*. Detailed Statement of all Remissions and Refunds of the Tolls or duties for the fiscal year ending March 31, 1916.—Also,—Supplementary statement of the Remissions and Refunds of Tolls and Duties from the Department of Marine and Fisheries. Presented by Hon. Mr. Patenaude, April 19, 1917.. .. .. *Not printed.*

76. Ordinances of the Yukon Territory, passed by the Yukon Council in 1916. (Senate).

Not printed.

76*a*. Return of Orders in Council passed under the provisions of Section 18, of Chapter 63, Revised Statutes of Canada, "An Act to provide for the Government of the Yukon Territory." Presented by Hon. Mr. Patenaude, April 19, 1917.. .. ..*Not printed.*

76*b* Return of Orders in Council passed in the year 1917, under the provisions of Section 18, of Chapter 63, Revised Statutes of Canada, "An Act to provide for the Government of the Yukon Territory." Presented by Hon. Mr. Sevigny, July 5, 1917.

Not printed.

77. Copy of extract from Order in Council No. P.C. 43/263, dated 27th January, 1917, authorizing Regulations governing the payment of Allowance for the Accountant Officers in the Royal Canadian Navy of Receiving Ships and Depot Ships, in accordance with the provisions of Secton 47, Chapter 43, 9-10 Edward VII. Presented by Hon. Mr. Hazen, February 6, 1917.. .. ..*Not printed.*

78. Return to an Order of the House of the 31st January, 1917, for a copy of all correspondence respecting the appointment of a Commission to investigate the financial and economic condition of Canadian railways, showing the names of the Commissioners, the rate of their remuneration, along with the names of the secretaries and engineers appointed by them, or by the Commission, and the rate of their remuneration. Presented February 6, 1917.—*Sir Wilfrid Laurier*.. .. ..*Not printed.*

79. Return to an Order of the House of the 31st January, 1917, for a copy of all papers, letters, telegrams and other documents relative to the removal of Mr. H. D. McKenzie as mechanical foreman at Stellarton on the Canadian Government Railways, and the appointment of his successor. Presented February 6, 1917.—*Mr. Macdonald.*

Not printed.

80. Return to an Order of the House of the 31st January, 1917, for a return showing the quantity of freight carried over the Grand Trunk Pacific Railway between Lévis and Moncton since that portion of said railway has been operated by the Canadian Government Railways System. Presented February 6, 1917.—*Mr. Copp*.. .. ..*Not printed.*

81. Return to an Order of the House of the 12th April, 1916, for a Return showing:—1. How many clerks there are in the Interior Department who belong to and are paid from the outside service vote and who work in the inside service? 2. The names of said clerks? 3. Salary paid to each? 4. How long each has been in the service of the Department? 5. If all or any of these clerks have passed any examination. If so, what examination and on what date or dates? Presented February 6, 1917.—*Mr. Turriff*.. ..*Not printed*

CONTENTS OF VOLUME 21—*Continued.*

82. Return to an Order of the House of the 15th March, 1916, for a copy of all correspondence between the Government and the Provinces, regarding increased co-operation in the promotion of immigration and land settlement, commencing with a letter of the Minister of the Interior to the Provincial Prime Ministers, in November, 1911. Presented February 6, 1917.—*Sir Wilfrid Laurier*... .. ..*Not printed.*

83. Return to an Order of the House of the 27th March, 1916, for a Return showing:—1. The names and salaries of the persons employed in the Immigration Service in the City of Montreal; their respective salaries when appointed and what they receive at the present time? 2. Which of such employees are given travelling or other expenses, and how much has been been paid to each on that account since their respective appointments. Presented February 6, 1917.—*Mr. Lachance*.. .. ..*Not printed.*

84. Return to an Order of the House of the 31st January, 1917, for a return showing the quantities of timber cut, and the sum paid therefor, to date, under the lease or sale of timber made by the Indian Department to Mr. Arthur Webber from lands situated near Ship Harbour Lake, Halifax County, together with the name or names of all surveyors of the timber cut from the said Indian lands under the above-mentioned sale or lease, and copies of all reports made in connection therewith by said surveyors. Presented February 6, 1917.—*Mr. McLean (Halifax)*... .. ..*Not printed.*

85. A copy of the Special Report made by the Royal Commission on Indian Affairs on the Kitsilano Indian Reserve, together with the Order in Council passed on the 28th March, 1916, and all other papers and correspondence relating to the Report. (Senate). *Not printed*

86. Return to an Address to His Excellency the Governor General, of the 31st January, 1917, for a copy of all correspondence exchanged between the Dominion Government and the Provincial Governments inviting them to a conference on the subject of making provisions for returned soldiers, including a copy of the proceedings of the conference which took place on the 10th of January at Ottawa on the same subject. Presented February 7, 1917.—*Sir Wilfrid Laurier* .. ..*Printed for sessional papers only.*

87. Return to an Order of the House, of the 31st January, 1917, for a copy of all correspondence between any Member of the Government and Sir Thomas Tait referring to his appointment to, and resignation from, the National Service Board. Presented February 7, 1917.—*Mr. Graham*.. .. ..*Printed for sessional papers only.*

87*a*. Return to an Order of the House of the 31st January, 1917, for a copy of all correspondence between Mr. Murray, Secretary of the Manufacturers' Association, and any Member of the Government, or Sir Thomas Tait, as head of the National Service Board, concerning his suggested appointment as Secretary of the National Service Board. Presented June 1, 1917.—*Mr. Graham*... .. ..*Not printed.*

88. Correspondence between the Prime Minister and the Leader of the Opposition concerning the formation of a Parliamentary National Service Commission. Presented by Sir Robert Borden, February 7, 1917... .. ..*Printed for sessional papers only.*

89. Return to an Order of the House, of the 5th February, 1917, for a copy of all petitions, letters, telegrams, reports and other documents relative to the closing of the Canard and Splitlog Post Office and the opening of Loiselleville Post Office, in the County of Essex, together with a copy of all petitions and documents relative to the establishment of rural mail routes from the Loiselleville Post Office. Presented February 7, 1917.—*Mr. Wilcox*.. .. ..*Not printed.*

90. Report on the Canadian Army Medical Service, by Colonel Herbert A. Bruce, Special Inspector General, Medical Services, Canadian Expeditionary Force, dated at London, England, 20th September, 1916. Presented by Sir Robert Borden, February 7, 1917. *Not printed.*

90*a*. Report on the Canadian Army Medical Service, by a Board of Officers, presided over by Surgeon-General Sir William Babtie, K.C.M.G., C.B., V.C., dated at London, England, December 22, 1916. Presented by Sir Robert Borden, February 7, 1917..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

90*b*. Copy of Interim Report of the Surgeon-General G. C. Jones, Director Medical Services. Canadians, in reply to the Report on the Canadian Army Medical Service by Colonel Herbert A. Bruce, Special Inspector-General, Medical Services, Canadian Expeditionary Force, dated London, September 28, 1916. Presented by Sir Edward Kemp, May 31, 1917.. .. ..*Not printed.*

91. Return to an Order of the House, of the 7th February, 1917, for a copy of all letters, telegrams, papers and other documents relative to the closing of the Marine Agency at Pictou last autumn, and as to the re-opening of said agency. Presented April 19, 1917. —*Mr. Macdonald*.. .. ..*Not printed.*

92. Return to an Order of the House of the 5th February, 1917, for a Return showing:—1. The number of horses that have been bought in Canada for war purposes in each of the years 1914, 1915 and 1916, respectively, (*a*) for the Canadian Army; (*b*) for Britain; and (*c*) for France and our other Allies. 2. The amount paid for the horses in each of the years for the different countries mentioned. Presented April 19, 1917.—*Mr. Edwards*.. .. ..*Not printed.*

93. Return to an Order of the House of the 31st January, 1917, for a Return showing:—1. The names, home addresses and former occupations of all censors, decoders or other employees of the Government in the different cable stations in Nova Scotia during the calendar year 1916. 2. The name of the person who recommended each of the said censors, decoders or employees. 3. What salary was paid to each of said persons for the calendar year 1916. Presented April 19, 1917.—*Mr. Sinclair*.. ..*Not printed.*

94. Copies of General Orders promulgated to the Militia for the period between December 30, 1915, and February 8, 1917. Presented by Sir Edward Kemp, April 19, 1917. *Not printed.*

95. Return to an Order of the House of the 11th March, 1915, for a copy of all charges, correspondence, letters, telegrams and other documents relative to the dismissal of Frank Dunlop, of Graves Point, at Sydney Mines, in the riding of North Cape Breton and Victoria, N.S., and the expenses of such investigation in detail. Presented April 19, 1917.—*Mr. McKenzie*.. .. ..*Not printed.*

96. Return to an Order of the House of the 3rd April, 1916, for a Return showing:—1. The names of the staff in the office of the High Commissioner for Canada in London? 2. Whether any of these officials are natives of Canada. If so which ones? 3. Whether it is true, as alleged, that Canada is the only British Dominion which employs none of its natives in its High Commissioner's Office. Presented April 19, 1917.—*Mr. Proulx*. *Not printed.*

97. Return to an Address to His Royal Highness the Governor General, of the 22nd February, 1915, for a copy of all Orders in Council, memoranda, correspondence or other documents in the possession of the Government, or any Department thereof, relating to the trade in dried fish and wines between Portugal and Canada. Presented April 19, 1917.— *Mr. Sinclair*.. .. ..*Not printed.*

98. Return to an Order of the House of the 31st January, 1917, for a tabulated statement showing the number of divorces granted by the Parliament of Canada since 1867. Presented April 19, 1917.—*Mr. Lemieux*.. .. ..*Not printed.*

99. Return to an Order of the House of the 3rd February, 1916, for a copy of all letters, telegrams and other documents, including tenders, relating to the mail contract from Tatamagouche to New Annan and Tatamagouche Mountain, in the County of Colchester. Presented April 19, 1917.—*Mr. Macdonald*.. .. ..*Not printed.*

100. Copy of new Rule in substitution of Rule 236 of the General Rules and Orders now in force regulating the practice and procedure in the Exchequer Court of Canada, made on the 16th day of February, 1917. Presented by Hon. Mr. Patenaude, April 19, 1917. *Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

100a. Copy of Rule 200 of the General Rules and Orders now in force regulating the practice and procedure in the Exchequer Court of Canada; also, Copy of General Order respecting fees and costs in the Exchequer Court in the exercise of its jurisdicton as a Court of Admiralty. Presented by Hon. Mr. Patenaude, May 3, 1917.....*Not printed.*

101. Return to an Order of the House of the 5th February, 1917, for a return showing a list of all persons employed during the year 1916 in the round-house of the Canadian Government Railways at Pirate Harbour, N.S., as brakemen, telegraphers, cleaners and labourers, showing the dates of their appointments and length of time employed respectively, and also the monthly rate of wages paid to each of said employees. Presented April 19, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

102. Return to an Order of the House of the 31st January, 1917, for a copy of all letters, papers, telegrams and other documents relative to the application for, and the granting of, a Conciliation Board to the employees of the Acadia Coal Company in the spring of 1916, the proceedings of said Board, and all other papers in relation to the same. Presented April 19, 1917.—*Mr. Macdonald*.. .. ..*Not printed.*

103. Return to an Order of the House of the 31st January, 1917, for a copy of all correspondence, telegrams and documents of all kinds exchanged between any person or persons and the Department of Labour or any other Department of the Government relating to the labour trouble at Thetford Mines, P.Q., and also copies of all correspondence exchanged between the different Departments of the Government respecting the same question. Presented April 19, 1917.—*Mr. Verville*.. .. ..*Not printed.*

104. Return to an Order of the House of the 31st January, 1917, for a copy of all letters, papers, telegrams and other documents relative to the application for, and the refusal to grant a Conciliation Board as petitioned for under the Industrial Disputes Investigation Act by the employees of the Canadian Government Railway at Pictou, who were members of the Longshoremen's Union at Pictou during the year 1916. Presented April 19, 1917.—*Mr. Macdonald*.. .. ..*Not printed.*

105. Return to an Order of the House of the 7th February, 1917, for a copy of the contract between the Government and the P. Lyall & Sons Construction Company for the reconstruction of the Parliament Building. Presented April 20, 1917.—*Mr. Murphy.*
Printed for Sessional Papers only.

106. Copy of Order in Council P.C. 1062, dated 16th April, 1917, ordering that wheat, wheat flour and semolina be transferred to the list of goods which may be imported into Canada free of duty of customs. Presented by Sir Thomas White, April 20, 1917.
Printed for Sessional Papers only.

107. Return to an Order of the House of the 19th April, 1917, for a return showing:—1. Whether the Government is aware as to whether there are cases in the Military Service in which men after enlistment have been given leave on harvesting furlough, and during such leave have been injured by accident, and who have in consequence of such accident incurred hospital bills, and who having been treated in hospital have returned to military duty and been discharged on account of injuries so received. 2. If so, whether claims have been made for hospital care and treatment. 3. If such claims have been recognized by the Government. 4. If not, why not. 5. If so, what action has been taken in connection therewith. 6. Whether in such cases the enlisted person is not entitled to pay up to time of discharge, and also the payment of his hospital account. Presented April 20, 1917.—*Mr. MacNutt*.. .. ..*Not printed.*

108. Copy of a communication from the Deputy Minister of Militia and Defence, relative to the total value of the Oliver equipment, so-called, supplied the Canadian soldiers who have crossed to England since the commencement of the present war. Presented by Sir Edward Kemp, April 20, 1917.. .. ..*Not printed.*

109. Return to an Order of the House of the 19th April, 1917, for a return showing:—1. The names of the Members of Parliament who now belong, or who did belong to the Overseas

CONTENTS OF VOLUME 21—*Continued.*

Forces or the Militia Forces of Canada since the present war was declared. 2. Whether these Members or any of them were, or are in receipt of pay from the Militia Department and in receipt of their indemnity as Members at the same time. 3. Whether the wives of these Members, or any of them were, or are in receipt of separation allowance. Presented April 20, 1917.—*Mr. Hughes (Kings, P.E.I.)*.. .. ..*Not printed.*

109a. Supplementary return to an Order of the House of the 19th April, 1917, for a return showing:—1. The names of the Members of Parliament who now belong, or who did belong to the Overseas Forces or the Militia Forces of Canada since the present war was declared. 2. Whether these Members, or any of them were, or are in receipt of pay from the Militia Department and in receipt of their indemnity as Members at the same time. 3. Whether the wives of these Members, or any of them were, or are in receipt of separation allowance. Presented April 24, 1917.—*Mr. Hughes (Kings, P.E.I.)*.. ..*Not printed.*

109b. Return to an Order of the House of the 25th April, 1917, for a return showing:—1. How many Members of the House of Commons are serving or have served in the Canadian Army. 2. The names of each of said Members, the date of appointment, and rank. 3. The names of those Members who have resigned or have withdrawn from military service and the date of withdrawal or resignation. 4. How much has been paid to each for military salary, expenses and separation allowance to wife or relatives, respectively. Presented May 31, 1917.—*Mr. Turriff*.. .. ..*Not printed.*

109c. Corrected copy of a return to an Order of the House of the 25th April, 1917, for a return showing:—1. How many Members of the House of Commons are serving or have served in the Canadian Army. 2. The names of each of said Members, the date of appointment, and rank. 3. The names of those Members who have resigned or have withdrawn from military service and the date of withdrawal or resignation. 4. How much has been paid to each for military service, expenses and separation allowance to wife or relatives, respectively. Presented June 14, 1917.—*Mr. Turriff*.. .. ..*Not printed.*

110. Return to an Order of the House of the 19th April, 1917, for a return showing:—1. What amounts have been given to the Canadian Patriotic Fund to December 31, 1916, and what amounts have been promised for 1917, by the different counties, towns and cities in each of the different provinces. 2. The names of the different counties, towns and cities, and the respective amounts subscribed and promised by each. 3. What counties, cities and towns in each province, if any, have not contributed any amount to the said fund up to the present time. Presented April 24, 1917.—*Mr. Edwards*.. ..*Not printed.*

110a. Return to an Order of the House of the 19th April, 1917, for a return showing:—1. How much money has been subscribed and voted to the Canadian Patriotic Fund by each of the different provinces to December 31, 1916. 2. How much money has been paid to the Canadian Patriotic Fund by each of the different provinces during the same time. 3. How much money has been promised by county, township, city or other grants by each province for the year 1917. 4. How many persons in each province have received assistance from the Canadian Patriotic Fund to December 31, 1916. 5. The total amount so expended in each province. Presented April 24, 1917.—*Mr. Edwards*.. ..*Not printed.*

111. Copy of Order in Council P.C. 802, dated 23rd March, 1917, in respect to taking over of the Ross Rifle Factory by the Government of Canada. Presented by Sir Edward Kemp, April 24, 1917.. .. ..*Not printed.*

112. Return to an Order of the House of the 31st January, 1917, for a copy of all documents, letters, telegrams and other correspondence in the Department of the Interior, relating to grazing leases numbers 2785, 2803, 2843, 3701, 3998, 4603, 5566, 6220 and 6221. Presented April 25, 1917.—*Mr. Steele*.. .. ..*Not printed.*

113. Memorandum from the Superintendent of Immigration respecting the advertising by the Canadian Government in United States newspapers for farm hands to work in Canada; together with a copy of the advertisements and instructions concerning the same. Presented by Hon. Mr. Roche, April 25, 1917.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

114. Copies of Orders in Council:—

P.C. 341, dated the 7th day of February, 1917, respecting the exportation of newsprint paper in sheets or rolls by license only under regulations by the Minister of Customs.

P.C. 445, dated the 17th day of February, 1917, containing orders and regulations respecting the price, sale, control, distribution, transport, etc., of newsprint paper in sheets or rolls.

P.C. 1059, dated the 16th day of April, 1917, empowering the Minister of Customs to fix the quantity and price of newsprint paper furnished or to be furnished to the publishers in Canada by the manufacturers; and controlling the distribution and delivery of the same.

P.C. 1060, dated the 16th day of April, appointing R. A. Pringle a commissioner to conduct an inquiry into and concerning the manufacture, sale, price and supply of newsprint paper within the Dominion of Canada. Presented by Sir Thomas White, April 26, 1917.. .. .. .

CONTENTS OF VOLUME 21—*Continued.*

and all other persons, concerning either the construction or repairing or purchase of the wharves at the following places: Ile Perrot Sud, the Church in the Village of Ile Perrot, the Village of Vaudreuil, Pointe Cavagnal, Hudson, Rigaud, Graham, Pointe Fortune, and Ile Perrot Nord. Also, a copy of all specifications and reports already brought down at my request in relation to the documents prior to and since 1904, and a statement of the amounts that have been paid for such construction or repairs, and to whom they were paid. Presented April 30, 1917.—*Mr. Boyer*.. .. ..*Not printed.*

122*a*. Return to an Order of the House of the 16th February, 1916, for a copy of all letters, petitions, correspondence, telegrams and reports, exchanged between the Government, the engineers residing in the district, and all other persons, concerning the construction and repairing done to the wharves mentioned below, since 1904, and of all data and reports already produced at my request and relating to documents prior to 1904; also the amounts of money paid for such construction and repairing, and to whom paid:—The wharf at Ile Perrot North, South, and at the Church; of the Village of Vaudreuil; of Pointe Cavagnal; of Hudson; of Graham; of Rigaud, and of Pointe Fortune. Presented April 30, 1917.—*Mr. Boyer*.. .. ..*Not printed.*

122*b*. Return to an Order of the House of the 30th April, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports exchanged between the Government, the resident engineer and all other persons, concerning the construction and repairing done to the wharves at Ile Perrot North, South and at the Church; Village of Vaudreuil, Pointe Cavagnal, Hudson, Graham, Rigaud and Point Fortune since 1904. Also, a copy of all data and reports regarding above already produced at my request relating to documents prior to 1904, showing the amounts of money paid for such construction and repairing, and to whom paid. And also, return to an Order of the House of the 30th April, 1917, for a copy of all letters, petitions, correspondence and telegrams exchanged between the Government, the district engineer, and any other persons concerning either the construction, repairing or purchase of the wharves at Ile Perrot South, the Church in the Village of Ile Perrot, Village of Vaudreuil, Pointe Cavagnal, Hudson, Rigaud, Graham, Pointe Fortune and Ile Perrot North, since 1904. Also a copy of all specifications and reports already brought down at my request in relation to above prior to, and since 1904, giving a statement of the amounts that have been paid for such construction or repairs, showing to whom they were paid. Presented August 13, 1917.—*Mr. Boyer.*

Not printed.

123. Return to an Order of the House of the 19th April, 1916, for a copy of all letters, petitions, correspondence and telegrams exchanged between the Government, its resident engineer, and all other prsons, concerning the dredging work done at the following places:—Ste. Anne de Bellevue, Pointe Fortune, Ottawa River Channel between Ile au Foin and Ile à Paquin, Graham channel, Rigaud channel, Hudson Heights channel, Hudson, Como, Pointe Cavagnal, channel at Vaudreuil Village, Dorion Bay channel, Ile Perrot Church, Ile Perrot Sud Wharf, and Ile Perrot Nord Wharf. Also, a statement of the amounts paid to different persons, companies, etc., for such work, the dates, etc., and a copy of the estimates already brought down at my request, the whole since 1904. Presented April 30, 1917.—*Mr. Boyer*.. .. ..*Not printed.*

123*a*. Return to an Order of the House of the 16th February, 1916, for a copy of all letters, petitions, correspondence, telegrams and reports exchanged between the Government, the resident engineer of the district, and all other persons, concerning the dredging work done at the places below named, and the amount of money paid to divers, persons companies, etc., for such work, as well as the statements already presented at any request, the whole since 1904:—At the wharf of Ile Perrot, North, South and at the Church; in Dorion Bay channel; at Vaudreuil Village channel; at Pointe Cavagnal; at Como; at Hudson; at Hudson Heights channel; at Graham channel; in the Rigaud River channel; in the Ottawa river; Ile aux Poires channel; at Pointe Fortune, and at Ste-Anne de Bellevue channel. Presented April 30, 1917.—*Mr. Boyer*.. .. ..*Not printed.*

124. Return to an Order of the House of the 3rd May, 1916, for a copy of all letters, telegrams, bills, vouchers and memoranda in connection with the repairs to the wharf at Upper Prospect, Halifax County, N.S., in 1915. Presented April 30, 1917.—*Mr. McLean (Halifax)*.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

125. Return to an Order of the House of the 3rd May, 1916, for a copy of all letters, telegrams, bills, vouchers and memoranda in connection with the repairs to the wharf at Shad Bay, Halifax County, N.S., in 1915. Presented April 30, 1917.—*Mr. McLean (Halifax)*.. .. .. .

CONTENTS OF VOLUME 21—*Continued.*

136. Return to an Order of the House of the 23rd April, 1917, for a return showing:—1. The names, former post office addresses, occupations and salaries paid to the censors and decoders in the employ of the Government at Hazel Hill and Canso during the year 1916. 2. How much has been expended in connection with this service at Canso and Hazel Hill since the first of August, 1914, up to the present date. 3. How much has been expended in connection with the said service in embracing all the stations in the province of Nova Scotia from August 1, 1914, up to the present date. Presented May 2, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

137. Return to an Order of the House of the 23rd April, 1917, for a copy of all contracts and agreements between Sir Charles Ross, his successors or assigns, and His Majesty the King, represented by the Minister of Militia and Defence, since and including the agreement between them dated the 27th day of March, A.D., 1902. Presented May 2, 1917. *Mr. Northrup*.. .. ..*Printed for Sessional Papers only.*

138. Return to an Order of the House of the 23rd April, 1917, for a return showing:—1. How many permanent civil servants or officials were in the employ of the Department of Militia and Defence on the 10th day of October, 1911, and how many on the 31st of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed by said Department since the 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914. 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1914. 6. What was the gross amount paid by said Department for salaries and expenses of all permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented May 2, 1917.—*Mr. Macdonald*.. .. ..*Not printed.*

138*a*. Return to an Order of the House of the 2nd May, 1917, for a return showing:—1. How many permanent civil servants or officials were in the employ of the Department of Naval Affairs on the 10th day of October, 1911, and how many on the 31st of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed by said Department since the 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914. 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1911. 6. What was the gross amount paid by said Department for salaries and expenses of all permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented May 16, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

138*b*. Return to an Order of the House of the 2nd May, 1917, for a return showing:—1. How many permanent civil servants or officials were in the employ of the Department of Marine and Fisheries on the 10th day of October, 1911, and how many on the 31st day of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed by said Department since the 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914, 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1911. 6. What was the gross amount paid by said Department for salaries and expenses of all

CONTENTS OF VOLUME 21—*Continued.*

permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented May 31, 1917.—*Mr. Sinclair*.. .. .. *Not printed.*

138*c*. Return to an Order of the House of the 9th May, 1917, for a return showing:—1. How many permanent civil servants or officials were in the employ of the Department of External Affairs on the 10th day of October, 1911, and how many on the 31st of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed by said Department since the 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914, 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1911. 6. What was the gross amount paid by said Department for salaries and expenses of all permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented June 1, 1917.—*Mr. Sinclair*.. .. .. *Not printed.*

138*d*. Return to an Order of the House of the 9th May, 1917, for a return showing:—1. How many permanent civil servants or officials were in the employ of the Department of Justice on the 10th day of October, 1911, and how many on the 31st of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed by said Department since the 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914, 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1911. 6. What was the gross amount paid by said Department for salaries and expenses of all permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented June 21, 1917.—*Mr. Sinclair*.. .. .. *Not printed.*

138*e*. Return to an Order of the House of the 14th May, 1917, for a return showing:—1. How many permanent civil servants or officials were in the employ of the Department of Finance on the 10th day of October, 1911, and how many on the 31st of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed by said Department since the 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914, 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1911. 6. What was the gross amount paid by said Department for salaries and expenses of all permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented June 29, 1912.—*M. Maclean (Halifax)*.. .. .. *Not printed.*

138*f*. Return to an Order of the House of the 2nd May 1917, for a return showing:—1. How many permanent civil servants and officials were in the employ of the Department of Indian Affairs on the 10th day of October, 1911, and how many on the 31st of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed

CONTENTS OF VOLUME 21—*Continued.*

by said Department since 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914, 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1914. 6. What was the gross amount paid by said Department for salaries and expenses of all permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented by Hon. Mr. Roche, July 10, 1917.—*Mr. Kyte*.. .. ..*Not printed.*

138*g*. Return to an Order of the House of the 23rd April, 1917, for a return showing:—1. How many permanent civil servants or officials were in the employ of the Department of Agriculture on the 10th day of October, 1911, and how many on the 31st day of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed by said Department since the 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914, 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1914. 6. What was the gross amount paid by said Department for salaries and expenses of all permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented August 15, 1917.—*Mr. Hughes (P.E.I.)*.. .. ..*Not printed.*

138*h*. Return to an Order of the House of the 2nd May, 1917, for a return showing:—1. How many permanent civil servants or officials were in the employ of the Department of State and Mines on the 10th day of October, 1911, and how many on the 31st of March, 1917. 2. How many temporary civil servants and employees of all kinds were in the employ of the said Department on the 10th day of October, 1911, and how many on the 31st of March, 1917. 3. How many permanent civil servants or officials were appointed by said Department since the 1st of August, 1914. 4. How many temporary civil servants and employees were employed by said Department since August 1, 1914, 5. What was the gross amount paid by said Department for salaries and expenses to both permanent and temporary civil servants and employees for the fiscal year ending March 31, 1911. 6. What was the gross amount paid by said Department for salaries and expenses of all permanent and temporary civil servants and employees for the fiscal year ending March 31, 1917. 7. How many civil servants were appointed by said Department since October 10, 1911, under the provisions of Section 21 of the Civil Service Act. Presented August 21, 1917.—*Mr. McKenzie*,. .. ..*Not printed.*

139. Return to an address to His Excellency the Governor General of the 23rd April, 1917, for a copy of the Order in Council and all other papers in connection with the awarding of the contract to J. C. Shields and others, or to the Inland Express Company for carrying the mails from Ashcroft to Fort George, B.C. Presented May 2, 1917.—*Mr. Turriff*.. .. ..*Not printed.*

140. Return to an Address to His Excellency the Governor General of the 31st January, 1917, for a copy of all correspondence exchanged with the Governement of the Province of Manitoba concerning a statute passed by the Legislature of Manitoba at its last session, entitled, "An Act to amend the Jury Act"; together with copies of all Orders in Council respecting same. Presented May 3, 1917.—*Sir Wilfrid Laurier*.. *Not printed*

141. Return to an Order of the House of the 7th February, 1917, for a return showing:—1. The number of interned aliens, and nationality of each, employed on public works since the 4th August, 1914. 2. The number employed in industrial work in the provinces of Canada, and the nationality of each, since the 1st of August, 1914. 3. The number so employed at the present time. Presented May 3, 1917.—*Mr. Kyte*.. .. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

142. Return to an Order of the House of the 2nd May, 1917, for a copy of the report of the Royal Commission appointed by Order in Council, 20th September, 1916, to inquire into and report upon the conditions in regard to the delivery of cargoes of coal to coasting vessels in the Maritime Provinces. Presented May 7, 1917.—*Mr. Hughes (Kings, P.E.I.)*.. .. ..*Not printed.*

143. Return to an Order of the House of the 31st January, 1917, for a return showing:—1. How many applicants for enlistment in the Canadian Overseas Forces have been rejected on account of being physically unfit. 2. How many have been discharged after enlistment for the same reason. Presented May 7, 1917.—*Mr. Steele*.. ..*Not printed.*

143*a*. Return to an Order of the House of the 30th April, 1917, for a return showing:—1. How many Americans have enrolled in Canadian Regiments since the commencement of the war. 2. How many natives of the British Isles are so enrolled in Canada since the 1st of August, 1914. Presented July 31, 1917.—*Mr. Boulay*.. .. ..*Not printed.*

143*b*. Return to an Order of the House of the 31st January, 1917, for a return showing:—1. How many men have enlisted in Canada for overseas service. 2. How many of these have been subsequently discharged as unfit. 3. How many of these were discharged in Canada, and how many overseas. Presented May 7, 1917.—*Mr. Graham*..*Not printed.*

143*c*. Return to an Order of the House of the 14th May, 1917, for a return showing:—1. Whether the Minister of Militia or any of the authorities of the Militia Department has official statistics as to the recruiting of soldiers in Canada for overseas service. 2. If so, what the correct figures are of enlistments in the different overseas regiments raised since August, 1914, to date (*a*) Canadian speaking the French language; (*b*) Canadians speaking the English language and born in Canada; (*c*) British subjects by birth born outside of Canada; (*d*) British subjects by naturalization; (*c*) British subjects by birth born outside of Canada; (*d*) British subjects by naturalization; (*e*) French Canadian soldiers in regiments commanded by officers speaking the English language raised in the province of Quebec; and (*f*) French Canadian soldiers in battalions raised in the other provinces of Canada. Presented June 14, 1917.—*Mr. Lanctôt*.. .. ..*Not printed.*

143*d*. Copy of Census Statistics showing Summary of Strength of all Units of the Canadian Expeditionary Forces in England, period 14th May, 1917, together with statement showing number of Canadian troops in France, England, in the Near East, St. Lucia and in Canada, June, 1917. Presented by Sir Edward Kemp, June 15, 1917.. ..*Not printed.*

144. P.C. 2314, dated 7th October, 1916, appointing a Special Seed Commissioner and three assistants, with authority to purchase seed wheat to fill requisitions for seed from municipal governing bodies in districts that have suffered crop failure due to the prevalence of rust and frost. Also, P.C. 3073, dated 14th December, 1916, authorizing the Special Seed Commission to purchase seed oats and seed barley to fill requisitions for seed from municipal governing bodies and farmers' organizations in districts where there is no supply. Presented by Hon. Mr. Burrell, May 8, 1917.. .. .. ..*Not printed.*

145. Return to an Order of the House of the 1st February, 1917, for a copy of all communications, reports and documents concerning the alleged treatment of Thos. Kelly, a prisoner in the Stony Mountain Penitentiary. Presented May 9, 1917.—*Mr. Buchanan.* *Not printed.*

146. Copy of Order in Council, P.C. 1183, dated 28th April, 1917, authorizing the granting, at the request of His Majesty's Government in England, of a further 300 miles of rails for use in France in connection with the war. Presented by Hon. Mr. Melghen, May 10, 1917.. .. ..*Not printed.*

146*a*. Return to an Order of the House of the 13th June, 1917, for a return showing:—1. Between what points on the Canadian Northern Railway Line west of Edmonton the rails are to be taken up to be placed on the Grand Trunk Pacific Line. 2. Between what points on the Grand Trunk Pacific Line west of Edmonton the rails of the Grand Trunk are to be replaced by rails of the Canadian Northern Railway. Presented June 14, 1917.—*Mr. Oliver*.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

146b. Tabulated statement showing list of points on the Eastern Division of the National Transcontinental Railway from which rails were lifted for shipment overseas to France, mileage lifted at each point and replaced with rails from Intercolonial Railway (together with a map accompanying same). Presented by Hon. Mr. Cochrane, June 21, 1917.. .. .. .

CONTENTS OF VOLUME 21—*Continued.*

156. Return to an Order of the House, of the 22nd March, 1916, for a Return showing:—1. The number of conductors, brakemen, drivers and firemen, respectively, who were on duty on the Canadian Government Railways between Moncton and Campbellton during the month of February, 1916. 2. The number of hours each of the above mentioned trainmen and enginemen were on duty each trip between said points during said month of February, 1916. Presented May 21, 1917.—*Mr. Copp*.. .. ..*Not printed.*

157. Report of Exchequer Court proceedings under Section 49A of the Indian Act, in respect to the removal of the Indians from Sydney Reserve, Nova Scotia. Presented by Hon. Mr. Roche, May 22, 1917.. .. ..*Not printed.*

158. Report of the work of the Military Hospitals Commission from its inception to the present date. Presented by Sir Robert Borden, May 23, 1917. .. ..*Not printed.*

159. Copy of correspondence between Members of the Government and the Canadian Manufacturers Association respecting the purchase of supplies for the Canadian Expeditionary Forces in England and at the Front. Presented by Sir Robert Borden, May 23, 1917.. .. ..*Not printed.*

160. Return to an Order of the House, of the 14th May, 1917, for a copy of the correspondence between the Prime Minister and the ex-Minister of Militia and Defence, which led to the latter's resignation or dismissal from the Government. Presented by Sir Robert Borden, May 23, 1917.—*Mr. Hughes (King's, P.E.I.)*.. .. ..*Not printed.*

161. Return to an humble Address of the Senate to His Excellency the Governor General, dated the 26th day of January, 1917, for a statement showing the date and object of all commissions instituted by the Government of the day, since its accession to power in 1911, up to the present date; the number of days during which each of these commissions sat, giving the names of the individuals who formed part of such commissions, and what was the cost of each to the country. *(Senate.)*.. .. ..*Not printed.*

161*a*. Part Return to an humble Address of the Senate, dated the 7th day of February, 1917, to His Excellency the Governor General, for:—A statement showing the date, the object and the personnel of all commissions instituted by the late Government from its accession to power in 1896, up to the accession to power of the present Government in 1911, the number of days during which each of these commissions set, and what was the cost of each to the country. *(Senate.)*.. .. ..*Not printed.*

162. Order in Council P.C. 1433, dated 24th May, 1917, containing regulations concerning the departure out of Canada of male persons who are liable to or capable of national service of a military or other character. Presented by Hon. Mr. Roche, May 29, 1917. *Not printed.*

163. Return to an Address to His Excellency the Governor General, of the 23rd May, 1917, for a copy of the Order in Council, if any, providing that preference in appointments to the Civil Service should be given to returned soldiers. Presented May 29, 1917.—*Mr. Boulay*.. .. ..*Not printed.*

164. Return to an Order of the House, of the 3rd February, 1917, for a copy of all reports findings, evidence, memoranda, etc., in connection with the inquiry into the damages sustained by H.M.C.S. *Grilse* en route from Halifax to Bermuda. Presented May 30, 1917.—*Mr. Maclean (Halifax.)*.. .. ..*Not printed.*

165. Return to an Order of the House, of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports in any way referring to the dismissal or retirement of D. McDermid, Superintendent of Fish Hatchery at East Margaree, and the appointment of his successor. Presented May 30, 1917.—*Mr. Chisholm.* *Not printed.*

166. Return to an Order of the House, of the 25th April, 1917, for a copy of all letters, telegrams, reports and other papers and documents relative to the application of Willis Keizer of Hall's Harbour, King's County, N.S., for a license to operate a fishing weir at Square Cove, King's County, N.S. Presented May 30, 1917.—*Mr. Maclean (Halifax.)* *Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

167. Return to an Address to His Excellency the Governor General, of the 23rd April, 1917, for a copy of all correspondence, memoranda, Orders in Council, etc., in reference to the dismissal of Moses H. Nickerson, as Inspector of Life-saving Stations in Nova Scotia Presented May 30, 1917.—*Mr. Maclean (Halifax)*.. .. ..*Not printed.*

168. Copies of Pension Regulations with amendments and as amended to February 28, 1917, with copies of Orders in Council relating thereto. Presented by Sir Thomas White, May 30, 1917.. .. ..*Printed for sessional papers only.*

168a. Copy of Order in Council, P.C. 277, dated 30th January, 1917, regarding pensions of officers or their dependants in respect of the exchange of officers between the Government of Canada and the Imperial Government. Presented by Sir Edward Kemp, August 20, 1917.. .. ..*Not printed.*

169. Return to an Order of the House, of the 14th May, 1917, for a copy of all letters, correspondence, petitions, telegrams and reports between the Minister of Marine and Fisheries and any person or persons in any way referring to the removal of the salmon nets on that portion of the coast of Inverness extending east and west from the mouth of the Margaree River. Presented May 31, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

170. Return to an Order of the House, of the 2nd May, 1917, for a copy of the report of the Commission appointed to investigate the condition of the Military Hospital at Halfax, with a copy of the evidence taken by said Commission at Halifax and all other documents in the possession of the Department of Militia and Defence in connection with such investigation. Presented May 31, 1917.—*Mr. Sinclair*.. .. .. ..*Not printed.*

171. Return to an Order of the House, of the 7th May, 1917, for a return showing the amount paid or spent by the Department of Militia in advertising for recruits in Canada, showing the persons, firms and corporations to whom the payments were made, up to April 1, 1917. Presented May 31, 1917.—*Mr. Macdonald*.. .. ..*Not printed.*

172. Finding of the Court of Inquiry appointed by the Adjutant-General by Orders dated the 1st May, 1917, for the purpose of collecting and recording evidence in connection with the allegations contained in several newspapers that Troop Trains had been stoned passing through Rivière-du-Loup, Quebec, and other places, and for the purpose of collecting and recording any other evidence which, in the opinion of the Members of the Court, in any way relates to or has a bearing on this matter. Presented by Sir Edward Kemp, May 31, 1917.. .. ..*Not printed.*

173. Finding of the Court of Inquiry appointed by the Adjustant-General by Orders dated the 1st May, 1917, for the purpose of collecting and recording evidence in connection with the allegations contained in several newspapers accusing the citizens of Quebec of maltreating or allowing to be maltreated, soldiers returning from the War and passing through or sojourning in Quebec, and for the purpose of collecting and recording any other evidence which, in the opinion of the Members of the Court, in any way relates to or has a bearing on the matter. Presented by Sir Edward Kemp, May 31, 1917.. .. ..*Not printed.*

174. Return to an Order of the House, of the 7th May, 1917, for a copy of all accounts, letters, claims, correspondence and other documents relating to the following amounts mentioned in the Report of the Auditor General 1916, Vol. 11, page L—11:—Mr. Justice L. P. Pelletier, travelling expenses, $877; Mr. Justice L. N. Belleau, travelling expenses, $1,984.44; Mr. Justice T. H. Chauvin, travelling expenses, $1,421.25; Mr. Justice B. LeTellier, travelling expenses, $1,923.80. Presented May 31, 1917.—*Mr. Lanctot*.. .. ..*Not printed.*

175. Return to an Order of the House, of the 30th May, 1917, for a Return showing:—1 The number of persons appointed to permanent position on the Canadian Government Railways from January 1, 1916, to March 31, 1917, who were not previously employed on the said Railways. 2. Their names, salaries and the positions to which they were appointed. Presented May 31, 1917.—*Mr. Copp*.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

176. Return to an Order of the House, of the 12th February, 1915, for a Return showing how many persons of German nationality are employed in the several Departments of the Federal Government, in what capacity and the salaries received respectively. Presented June 1, 1917.—*Mr. Delisle*.. .. ..*Not printed.*

177. Return to an Order of the House, of the 1st May, 1916, for a copy of all correspondence and papers relating to the change in the location of the post office at Roseberg, Alberta. Presented June 1, 1917.—*Mr. Buchanan*.. .. ..*Not printed.*

178. Return to an Order of the House, of the 8th May, 1916, for a copy of all correspondence, letters and telegrams relating to the dismissal of Augustin D. Lauteigne as Postmaster of Island River, Gloucester County, N.B. Presented June 1, 1917.—*Mr. Turgeon.*
Not printed.

179. Return to an Order of the House, of the 31st January, 1917, for a copy of all letters and telegrams in the Post Office Department in reference to the removal of Pearson's Post Office, Township of Casey, in the Constituency of Nipissing, from where it was located to its present location. Presented June 1, 1917.—*Mr. Turriff*.. ..*Not printed.*

180. Return to an Order of the House, of the 5th February, 1917, for a copy of all letters, reports, papers and other documents relative to the dismissal of John R. McIntosh as Postmaster of Cummings Mountain, Pictou County, and the appointment of James Cummings as his successor. Presented June 1, 1917.—*Mr. Macdonald*.. ..*Not printed.*

181. Return to an Order of the House, of the 2nd May, 1917, for a Return showing:—The gross amount paid by the Government since October, 1911, to H. P. Duchemin, of Sydney, N.B., for services and disbursements under the Public Inquiries Act, or otherwise. Presented June 1, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

182. Return to an Order of the House, of the 3rd February, 1917, for a copy of all correspondence, letters, telegrams and other documents concerning the cancelling by the Post Office Department of the rural mail contract granted to Hyppolite Lambert of St. Antoine, in the County of Lotbinière, Que. Presented June 1, 1917.—*Mr. Fortier.*
Not printed.

183. Reports, pursuant to a Resolution of the House adopted on the 18th May, 1916, based on a recommendation of the Joint Committee of both Houses on Printing of Parliament, requesting information from the several Departments of Government with the view to effecting all possible economy in the matter of public printing and the distribution of public documents, and the extent, if any, to which such recommendations have been carried into effect. Presented by Hon. Mr. Patenaude, June 1, 1917.. ..*Not printed.*

184. Return to an Order of the House, of 21st May, 1917, for a copy of all correspondence, reports and recommendations, if any, from the Grain Commission to the Department of Trade and Commerce or any other Department of the Government at Ottawa, following a meeting of the Grain Commissioners held in Lethbridge this year. Presented June 1, 1917.—*Mr. Buchanan*.. .. ..*Not printed.*

185. Order in Council passed in conformity with provisions of 4-5 George V., Chapter 20, S-15 (C. N. Railway.)—(*The Senate*).. .. ..*Not printed.*

186. Return to an Order of the House, of the 3rd February, 1917, for a return showing the quantity and value of exports in following commodities for the first nine months of present fiscal year:—Horses; brass and manufacturers of same; wheat, breadstuffs; oats and grain other than wheat; automobiles, bicycles, motorcycles and parts of same, including engines and tires; railway cars and parts; chemicals; copper and manufactures of same; cotton manufactures; explosives; iron and steel and manufactures of same; firearms and munitions; leather and manufactures of same; meat and dairy products; alcohol; vegetables, dried and canned; lead; wearing apparel of all kinds; zinc and manufactures of same; paper and manufactures of same. Presented June 4, 1917.—*Mr. Maclean (Halifax)*... .. ..*Printed for sessional papers only.*

CONTENTS OF VOLUME 21—*Continued.*

187. Return to an Order of the House, of the 30th April, 1917, for a copy of all documents, correspondence, letters, telegrams, memoranda and reports exchanged between the Sergeant-at-Arms of the House of Commons and the Honourable Albert Sévigny; the Sergeant-at-Arms and the Justice Department, and between the Department of Justice and the Honourable Albert Sévigny, concerning certain effects, furniture and ornaments connected with the Speaker's Apartments. Also, copy of all accounts, receipts, bills of lading and transportation accounts concerning the said effects, furniture and ornaments. Presented June 5, 1917.—*Mr. Lanctot*.. .. ..*Not printed.*

188. Copy of Order in Council P.C. 1457, dated the 29th May, 1917, respecting pay to members of the Civil Service who join the Military forces of Canada either by voluntary enlistment or otherwise from and after the date hereof. Presented by Sir Thomas White, June 6, 1917... .. ..*Not printed.*

189. Copy of General Reports of W. F. O'Connor, K.C., Acting Commissioner *re* Cost of Living, concerning the production, cost, selling prices, and distribution system of refined sugar. Presented by Hon. Mr. Crothers, June 6, 1917

Printed for distribution and sessional papers.

190. Copy of Reports of W. F. O'Connor, on the subject of the Anthracite Coal business in Canada. Presented by Hon. Mr. Crothers, June 6, 1917.

Printed for distribution and sessional papers.

191. Return to an humble Address of the Senate to His Excellency the Governor General, dated the 22nd of May last, showing a copy of:—All correspondence exchanged between the Government or its Ministers, the Minister of Militia, the Militia Council, Major-General F. L. Lessard, C.B., Inspector-General, or any other person, and Lieutenant-Colonel Armand Lavergne, O.C., the 61st Regiment or any other person, on the subject of the territorial defence of the Province of Quebec, as well as copy of all Orders in Council or documents relating to this subject.—(*Senate*).. .. ..*Not printed.*

192. Copy of Order in Council, P.C. 1579, dated 8th June, 1917, appointing a Fuel Controller for Canada. Presented by Sir George Foster, May 12, 1917.

Printed for sessional papers only.

192*a*. Copy of Order in Council, P.C. 1460, dated 16th June, 1917, *re* the appointment of an Officer to be known as Food Controller for Canada, and specifying his powers and duties. Presented by Sir Robert Borden, June 19, 1917.

Printed for sessional papers only.

193. Copy of Order in Council, P.C. 1604, dated 11th June, *re* the establishment of "The Board of Grain Supervisors of Canada." And also, Copy of Order in Council, P.C. 1605, dated 11th June, 1917, appointing certain persons as members of "The Board of Grain Supervisors of Canada." Presented by Sir George Foster, May 12, 1917.

Printed for sessional papers only.

194. Copies of Census Statistics of male population of Canada, Census of 1911, between the ages of 20 and 45, both years inclusive, according to conjugal condition and nativity. Presented by Sir Edward Kemp, June 13, 1917.

Printed for sessional papers only.

195. Copies of The King's Regulations and Orders for the Army, 1912, re-printed with amendments published in Army Orders up to 1st August, 1914. Presented by Sir Edward Kemp, June 13, 1917... .. ..*Not printed.*

196. Copies of Manual of Military Law, War Office, 1914. Presented Sir Edward Kemp, June 13, 1917.. .. ..*Not printed.*

197. Copy of Order in Council, P.C. 987, dated 10th April, 1917, as amended by Order in Council No. 1451, dated 25th May, 1917: Regulations, being as Consolidation of and additions to various Orders in Council made in consequence of the War, the whole to be known as the "Defence of Canada Order, 1917." Presented by Hon. Mr. Hazen, June 13, 1917... .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

198. Return to an Order of the House, of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports in any way referring to dismissal, retirement or resignation of John McDonald, as Janitor of public building at Inverness, and the appointment of his successor. Presented June 15, 1917.—*Mr. Chisholm. Not printed.*

199. Return to an Order of the House, of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the extension and repairs to McKay's Point Wharf, Inverness County. Presented June 15, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

200. Return to an Order of the House, of the 7th May, 1917, for a copy of the replies which the Government or the Department of Public Works sent to the Resident Engineer or other parties in answer to letters, telegrams, or reports in connection with the breakwater at Souris, P.E.I., during the years 1915 and 1916. Presented June 15, 1917.—*Mr. Hughes (King's, P.E.I.)*.. .. ..*Not printed.*

201. Return to an Order of the House, of the 23rd May, 1917, for a copy of all correspondence, telegrams, recommendations and other communications relating to the dismissal of Hector Urquhart, as lineman on the Dominion Government telegraph line between Grand River and Enon, Cape Breton County, Nova Scotia, and relating to the appointment of Dan. A. McLennan to said position. Presented June 15, 1917.—*Mr. Kyte*.. .. ..*Not printed.*

202. Return to an Order of the House, of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the extension and repairs to Craignish Wharf. Presented June 15, 1917.—*Mr. Chisholm*..*Not printed.*

203. Return to an Order of the House, of the 3rd May, 1917, for a Return showing:—1. The amount which has been paid for stenographic reporting for the different Commissions or inquiries which have been held by the Government since November, 1911, to the present time. 2. The names of the persons to whom these amounts have been paid for stenography and the respective amounts paid to each of them. Presented June 15, 1917.—*Mr. Verville*.. .. ..*Not printed.*

203*a*. Return to an Order of the House, of the 3rd May, 1917, for a Return showing:—1. The amount which has been paid for stenographic reporting for the different Commissions or inquiries which have been held by the Government since November, 1911, to the present time. 2. The names of the persons to whom these amounts have been paid for stenography and the respective amounts paid to each of them. Presented June 28, 1917.—*Mr. Verville*.. .. ..*Not printed.*

204. Return to an Address to His Excellency the Governor General, of the 9th May, 1917, for a copy of all papers, petitions, telegrams and all other documents sent to the Government urging upon them the necessity of abolishing the wet canteen system in the camps overseas. Presented June 15, 1917.—*Mr. Lemieux*.. .. ..*Not printed.*

205. Copies of all correspondence, memoranda or other documents received by or sent by the Right Honourable the Prime Minister and the Honourable the Minister of Trade and Commerce, concerning a project to advertise Canadian products by the organization of an exhibition train of sample goods in France. (*Senate*)... .. ..*Not printed.*

205*a*. Supplementary Return to an Order of the Senate, dated the 7th June last, for a Return showing:—Copies of all correspondence, memoranda or other documents received by or sent by the Right Honourable the Prime Minister and the Honourable the Minister of Trade and Commerce, concerning a project to advertise Canadian products by the organization of an exhibition train of sample goods in France. *The Senate*.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

206. Letter of the Honourable E. L. Patenaude, M.P., to the Right Honourable the Prime Minister, resigning his position as Secretary of State for Canada, and the letter of the Prime Minister in acknowledgment thereof. Presented by Sir Robert Borden, June 18, 1917.. .. ..*Not printed.*

207. Return to an Order of the House, of the 3rd May, 1917, for a Return showing:—1. How much merchandise has been exported from Canada into Foreign Countries since the first of August, 1914, to the present time? 2. How much of these goods have gone through the Port of Hamburg? 3. What countries have imported this merchandise from Canada, and the respective amounts for each of them? Presented June 18, 1917.—*Mr. Verville*.. .. ..*Not printed.*

208. Return to an Order of the House, of the 3rd February, 1916, for a return showing the itemized disbursements of Ward Fisher, Inspector of Fisheries for Western Nova Scotia, for the year 1912, amounting to $388.40; and the year 1913, amounting to $1,009.84. Presented June 18, 1917.—*Mr. Law*.. .. ..*Not printed.*

209. Return to an Order of the House, of the 23rd April, 1917, for a copy of all papers, documents, petitions, memoranda, correspondence, etc., with the Government of British Columbia or any member thereof with the Fishery Officers of the Marine and Fisheries Department resident in said Province, and with any Company, person or persons relating to prohibition of the export of British Columbia salmon since January 20, 1913. Presented June 18, 1917.—*Mr. McKenzie*.. .. ..*Not printed.*

210. Statement of Amount and Price of Commodities purchased and sold (including export and home consumption) by Cold Storage Companies in Canada from January 1 to December 1, 1916. Presented by Hon. Mr. Crothers, June 18, 1917.. .. .. ..*Not printed.*

210*a*. Report of W. F. O'Connor, K.C., Acting Commissioner *re* Cost of Living, concerning Cold Storage Conditions in Canada. Presented by Hon. Mr. Crothers, July 13, 1917. *Printed for distribution and sessional papers.*

210*b*. Copy of Order in Council, P.C. 2021, dated 23rd July, 1917, recommending the further investigation into the premises, books, papers and records of the William Davies Company, Limited, and Matthews-Blackwell, Ltd., as disclosed by the report of W. F. O'Connor, Acting Commissioner on the Cost of Living, on the subject of cold storage conditions in Canada, and appointing G. F. Henderson, A. B. Brodie and Geoffrey Clarkson with all the powers of Examiners under Part I of the Inquiries Act to inquire into the books, papers, etc., of the said companies; also to recommend in writing to the Minister of Labour a standardized system of costs accounting applicable to the cold storage business by which the net profits of cold storage companies in Canada may from time to time be readily ascertained. Presented by Hon. Mr. Crothers, July 25, 1917.. .. ..*Not printed*

211. Return to an Order of the House, of the 11th June, 1917, for a copy of all correspondence, telegrams, requests, petitions and other papers in the possession of the Department of Trade and Commerce relating to providing a supply of salt for the fisheries of the Maritime Provinces. Presented by Sir George Foster, June 22, 1917. *Not printed.*

212. Copy of Order in Council, P.C. No. 1725, dated the 25th June, 1917, creating the position of Director of Coal Operations for the southeastern coal fields of the Province of British Columbia and the suthwestern coal fields of the Province of Alberta, known as District 18. And also,—Copy of Order in Council, P.C. No. 1726, dated the 25th June, 1917, appointing W. H. Armstrong, of the City of Vancouver, Director of Coal Operations under the provisions of the above Order in Council, P.C. No. 1725, dated 25th June, 1917. Presented by Sir Robert Borden, June 25, 1917... ..*Not printed.*

212*a*. Return to an Order of the House, of the 14th May, 1917, for a copy of all letters, reports, communications and documents passing between the Minister of Labour and the Department of Labour and the officials of District No. 18, United Mine Workers

CONTENTS OF VOLUME 21—*Continued.*

of Alberta, and the officials of the Alberta and Eastern British Columbia Coal Operators' Association, concerning the requests made by the Miners for an increase in wages due to the increase in the cost of living, between September 1, 1916, and the present time. Presented July 12, 1917.—*Mr. Buchanan*.. .. ..*Not printed.*

213. Return to an Order of the House, of the 13th June, 1917, for a Return showing:—1. How many battalions of infantry left Canada with the First Contingent? 2. The number, and the designations of the different units of artillery which left with the First Contingent? 3. The number and the designation of the different medical corps which left Canada with the First Contingent? 4. The number and the designation of all the other units which left with the First Contingent? 5. The names, rank and duties of the supernumerary officers who left with the First Contingent. Presented June 26, 1917.—*Mr. Lachance*.. .. ..*Not printed.*

214. Return to an Address to His Excellency the Governor General, of the 30th May, 1917, for a copy of all correspondence, letters, cables and other documents exchanged between the Imperial Government or any of its members or officials with the Canadian Government or any of its members or officials, relative to the question of the proposed legislation by the Imperial Parliament to validate certain Acts and proceedings of the Legislature of British Columbia. Presented June 27, 1917.—*Mr. Macdonald*.. .. ..*Not printed.*

215. Return to an Order of the House, of the 4th June, 1917, for a copy of all correspondence between the Chief of the *Hansard* Translation Staff of the House, the Clerk of the House and the Speaker, since April 19, 1917, to date. Presented June 28, 1917.—*Mr. Lemieux*.. .. ..*Not printed.*

216. Return to an Order of the House, of the 27th March, 1916, for a return showing the amounts paid by the Federal Government from the 1st July, 1896, to the 1st October, 1911, to the following newspapers: Le *Canada, La Presse, La Patrie, Le Pays,* of Montreal, *La Vigie* and *Le Soleil,* of Quebec. Presented June 28, 1917.—*Mr. Boulay*.. .. ..*Not printed.*

217. Return to an Order of the House, of the 3rd May, 1917, for a Return showing the number of employees of the following Departments after 1896, and after 1911, respectively, viz.:—Inland Revenue, Interior, Public Works, Marine and Fisheries, Militia and Defence, Labour and Department of Trade and Commerce. Presented June 28, 1917.—*Mr. Boulay*.. .. ..*Not printed.*

218. Return to an Order of the House, of the 7th May, 1917, for a Return showing the number of returned soldiers who have been given employment in the various departments of the Government. Presented June 28, 1917.—*Mr. Lemieux*.. ..*Not printed.*

219. Return to an Order of the House, of the 25th June, 1917, for a copy of the reports made by the Penitentiary Surgeons in connection with the release from Penitentiary of Edward Levi Baugh. Presented July 4, 1917.—*Mr. Murphy*.. .. ..*Not printed.*

220. Return to an Order of the House, of the 21st May, 1917, for a return giving the names and salaries of employees of the Interior and Indian Departments, (*a*) Inside Service and (*b*) Outside Service, who volunteered for overseas service, and who were paid their full civil salary in addition to their military pay and allowances.

Those who volunteered for overseas service and who were paid a sufficient portion of their civil salary in addition to their military pay and allowances to bring their pay up to the amount of their civil salary.

Those who volunteered for overseas service and who received consideration (stating consideration) on account of their civil employment in addition to their military pay and allowances.

Those who volunteered for overseas service and who do not receive any consideration on account of their civil employment in addition to their military pay and allowances. Presented July 5, 1917.—*Mr. Oliver*.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

221. Report of Special Trade Commission to Great Britain, France and Italy, May-September, 1916. Presented by Sir George Foster, July 5, 1917... ..*Not printed.*

222. Return to an Order of the House, of the 13th June, 1917, for a Return showing:—1. The total expenditure connected with Agriculture by the Federal Government in each of the fiscal years from 1904-05 to 1916-17, inclusive. 2. How much money was set apart by the Agricultural Aid Act of 1912 to assist the Provincial Departments of Agriculture to improve and extend their work? 3. How much of above amount was given to each Province, and what was accomplished in each Province as a result of such assistance? 4. How much money was set apart by the Federal Government under the Agricultural Instructions Act of 1913, and under the provisions of the said Act what amounts were respectively allotted each year to the several Provinces? 5. What the general purpose of said Act is, and to what extent that purpose has been made effective in each Province. Presented July 5, 1917.—*Mr. Edwards.*
Printed for sessional papers only.

223. Return to an Order of the House, of the 11th June, 1917, for a Return showing:—1. Whether Mr. Giard, ex-M.P.P. for Compton, is an employee of the Government? 2. If so, since when? 3. The number of employees under his orders and their respective names? 4. What salary does said Giard receive? 5. The salary of each employee under his charge? 6. Whether he has bought, for the Government, any animals for breeding purposes? 7. If so, how many, and the price paid for each? 8. Where these animals were bought? 9. How many of them have been rejected or returned to the Government or to Mr. Giard? 10. If any have been refused or returned, why? 11. Where the said breeding animals are at present? 12. What the Government or the Department of Agriculture intends to do with the animals so refused and returned to Mr. Giard? Presented July 5, 1917.—*Mr. Gauvreau* *Not printed.*

224. Return to an Address to His Excellency the Governor General, of the 31st January, 1917, for a copy of all documents, letters, messages, correspondence, reports and particularly an Order in Council dated 6th December, 1898, respecting the exemption from military service of the Doukhobors. Presented by Hon. Mr. Roche, July 9, 1917. —*Mr. McCraney*.. .. ..*Not printed.*

225. Return to an Address to His Excellency the Governor General, of the 31st January, 1917, for a copy of all Orders in Council and other documents on file in the Department of Marine and Fisheries relating to the requisitioning of Canadian ships by the Canadian Government. Presented July 11, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

226. Return to an Order of the House of the 7th June, 1917, for a return showing the number of recruiting officers which have been appointed in the province of Quebec, with the names, addresses, nature of functions and salaries of the same. Presented July 11, 1917.—*Mr. Carvell*.. .. ..*Not printed.*

226a. Return to an Order of the House of the 18th June, 1917, for a return showing:—1. The names and addresses of the parties on Prince Edward Island who have been engaged or who are now engaged in recruiting for the army and navy or doing other work of a like military character, since August, 1914. 2. The remuneration or pay each of the said parties receives and the allowance given for travelling or other expenses. 3. The total amount each person has received up to the 1st of June, 1917. Presented July 31, 1917.—*Mr. Hughes (P.E.I.)*.. .. ..*Not printed.*

227. Return to an Order of the House of the 12th April, 1916, for a return showing:—1. How many clerks there are in the Post Office Department who belong to and are paid from the outside service vote, and who work in the inside service. 2. The names of said clerks. 3. Salary paid to each. 4. How long each has been in the service of the Department. 5. If all or any of the clerks have passed any examination. If so, what examination, and on what date or dates. Presented July 14.—*Mr. Turriff*..*Not printed.*

228. Copy of a memorandum presented by the Southern Slav Committee to the representatives of the British Dominions, setting forth the aims and aspirations of the Jugo-slavs (Serbs, Croats and Slovens) subject to Austro-Hungarian rule. Presented by Sir Robert Borden, July 20, 1917.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

229. Claims made by Minister of Justice relating to payment of duties by certain provinces. (*Senate.*).. .. .. .

CONTENTS OF VOLUME 21—*Continued.*

235. Return to an Order of the House of the 20th June, 1917, for a return showing:—1. The names of the members of the military staff at North Vancouver. 2. Their respective duties or occupations. 3. The rank and rate of pay of each. 4. The amount that has been paid to each. 5. Upon what date or dates the members of the said staff enlisted, and how long they have been attached to the staff. Presented July 31, 1917.—*Mr. Murphy*.. .. .. .

CONTENTS OF VOLUME 21—*Continued.*

240. Return to an Order of the House of the 13th June, 1917, for a statement showing the travelling expenses of Maurice LeBlanc, general foreman of the Department of Public Works, Bonaventure County, since his appointment to date. Presented August 8, 1917. —*Mr. Marcil (Bonaventure)*.. .. ..*Not printed.*

241. Return to an Order of the House of the 30th April, 1917, for a copy of all letters, petitions, correspondence and telegrams exchanged between the Government, the resident engineer and all other persons concerning the dredging work done at Ste. Anne de Bellevue, Pointe Fortune, Ottawa River channel between Ile au Foin and Ile Paquin, Graham channel, Rigaud channel, Hudson Heights channel, Ile Perrot Church, Ile Perrot South wharf and Ile Perrot North wharf, since 1904. Also a statement showing the amounts paid to different persons or companies for such work, giving the dates of payment, along with a copy of the estimates already brought down at my request regarding the above, previous to 1904. Return to an Order of the House of the 30th April, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports exchanged between the Government, the resident engineer of the district, and all other persons, concerning the dredging work done since 1904 at the wharf of Ile Perrot North, South and the Church, Dorion Bay channel, Vaudreuil Village channel, Pointe Cavagnal, Como, Hudson Heights channel, Graham channel, Rigaud River channel, Ottawa River, Iles aux Poires channel, Pointe Fortune and Ste. Anne de Bellevue channel. Also a statement showing the amount of money paid to divers persons, companies, etc., for such works, along with copy of statements already presented at my request in connection with the same work, previous to 1904. Presented August 8, 1917. —*Mr. Boyer*.. .. ..*Not printed.*

242. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the extension and repairs to Finlay Point wharf. Presented August 8, 1917.—*Mr. Chisholm*.. .. .. ..*Not printed.*

243. Return to an Order of the House of the 30th April, 1917, for a copy of all correspondence in the possession of the Department of Public Works bearing date after September 1, 1915, relating to wharves, breakwaters and other public works situate in the County of Antigonish, Nova Scotia. Presented August 8, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

244. Return to an Order of the House of the 7th May, 1917, for a copy of all documents, correspondence, reports, accounts, pay-lists, etc., in connection with the work done on the Government wharves at Cross Point, Miguasha, St. Omer and New Carlisle, Quebec, since 1912. Presented August 8, 1917.—*Mr. Marcil (Bonaventure)*... ..*Not printed.*

245. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the wharf at Marble Mountain. Presented August 13, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

246. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the extension of the pier at Margaree Harbour. Presented August 13, 1917.—*Mr. Chisholm*.. .. .. ..*Not printed.*

246a. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the breakwater at Margaree Harbour. Presented August 13, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

247. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the Port Hood wharf. Presented August 13, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

248. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present time, in any way referring to the opening of Inverness Harbour. Presented August 13, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

249. Return to an Order of the House of the 23rd April, 1917, for a copy of all papers, documents, petitions, memoranda, correspondence, etc., with reference to the Government of the Dominion of Canada building competing telephone lines in British Columbia paralleling lines already in operation of the Okanagan Telephone Company, Limited. Presented August 13, 1917.—*Mr. Carvell*.. .. ..*Not printed.*

250. Return to an Order of the House of the 30th April, 1917, for a copy of all correspondence in the Department of Public Works bearing date after September 1, 1915, relating to wharves, breakwaters and other public works in the County of Guysborough, Nova Scotia. Presented August 13, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

251. Return to an Order of the House of the 30th April, 1917, for a copy of all papers, records and other documents concerning the reference by the Dominion Government to the question relating to the exclusive right of fishing in the tidal waters of the province of Quebec. Presented August 15, 1917.—*Mr. Lemieux*.. .. ..*Not printed.*

252. Return to an Order of the House of the 9th July, 1917, for a return showing the names of all persons employed in connection with the Office of the Commissioner of Live Stock in the Province of Saskatchewan, showing the salaries and expenses paid them; and also showing the number of stallions and bulls placed in Saskatchewan when the said office was established. Presented August 15, 1917.—*Mr. Thomson (Qu'Appelle)*.
Not printed.

253. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, telegrams and reports between the Department of the Naval Service of the Department of Marine and Fisheries, and any and all persons in connection with the seizure of certain fishery boats, fishing tackle and equipment being used in the illegal fishing of lobsters in the Straits of Northumberland in the fall of 1916, together with a copy of the evidence taken before one M. G. Teed, Esquire, acting as a commissioner to inquire into this matter, and his report and finding thereon. Presented August 16, 1917.—*Mr. Copp.*
Not printed.

254. Return to an Order of the House of the 30th July, 1917, for a copy of all correspondence between the Department of Militia and Defence of Canada, the War Purchasing Commission of Canada, and the British War Office, concerning a target practice rod or the use of same by the Canadian Expeditionary Force. Presented August 20, 1917.—*Mr. Maclean (Halifax)*.. .. ..*Not printed.*

255. Return to an Order of the House of the 7th June, 1917, for a return showing:—1. Whether the Department of Agriculture supply thoroughbred bulls for improvement of stock to applicants for the same. 2. If so, if any such bulls have been sent into the County of Dorchester, Quebec, and when. 3. At whose request these bulls were sent, and if they belonged to the Department of Agriculture. 4. If so, on what condition they were supplied. 5. From whom the department purchased the animals referred to. 6. The price paid. 7. If any official of the Department of Agriculture has made an investigation as to where these bulls are at the present time. 8. If so, the substance of their report. 9. Whether the said bulls are being used for the purpose for which they were intended. Presented August 21, 1917.—*Mr. Lanctôt*.. .. .. ..*Not printed.*

256. Return to an Order of the House of the 1st August, 1917, for a return showing the amount which has been paid to the Sydney *Daily Post*, newspaper, by all the departments of the Government for printing and advertising, since the 1st of November, 1911. Presented August 21, 1917.—*Mr. Kyte*.. .. ..*Not printed.*

257. Return to an Order of the House of the 1st August, 1917, for a return showing the gross amount paid to the Halifax *Herald*, the *Evening Mail*, Halifax, and the Royal Print and Lithographing Company, Halifax, by all the departments of the Government for printing, advertising and all other services since November 1, 1911. Presented August 21, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

258. Return to an Order of the House of the 18th June, 1917, for a copy of all accounts, papers, claims and correspondence regarding demands put forward by all persons who have claimed to have sustained loss or damage by the fire in the Parliament Buildings in February, 1916. Presented August 21, 1917.—*Mr. Lanctôt*.. .. ..*Not printed.*

259. Return to an Order of the House of the 14th May, 1917, for a copy of all communications, letters, reports, petitions and other documents on behalf of the Physicians and Medical Associations of this country, asking for the repeal of The Proprietary or Patent Medicine Act and the presentation of a new Act on the matter in order to render more efficient the control of these medicine preparations, and to add on the prohibition list such drugs or medicines as are generally dangerous to health and conducive to certain criminal practices. Presented August 21, 1917.—*Mr. Lapointe* (*Kamouraska*). *Not printed.*

260. Copy of correspondence between the Honourable Robert Rogers and the Right Honourable Sir Robert Borden, Prime Minister, with reference to the resignation of the former as Minister of Public Works of Canada.—(*The Senate.*).. .. ..*Not printed.*

261. Return to an Order of the Senate dated the 11th day of July, 1917, for a Statement showing the number of officers and men of the Canadian Expeditionary Force who have been classed as unfit for military service; whether the military authorities have given consideration to the possibility of utilizing the services of those men in a secondary capacity; whether those who have been classed as unfit continue to draw military pay; the number who have deserted from the various units between 1st October, 1914, and 1st June, 1917; and the number discharged from the various units since 1st October, 1914.—(*The Senate.*).. .. ..*Not printed.*

262. Return to an Order of the Senate, dated 7th June last, for a return showing:—1. The name and rank of each person who at the outbreak of the war in August, 1914, was an officer, commissioned or provisional, of the 78th Regiment (Highlanders), of Pictou County, Nova Scotia. 2. The length of time each of such persons was attached to said regiment. 3. (*a*) The name of each of said officers who joined the Canadian Overseas Forces. (*b*) The unit to which he was attached. (*c*) The rank with which he was attached. (*d*) The date at which he was attached. 4. The name of each person who since the outbreak of war became attached as provisional officers to said 78th Regiment and the date at which such person became attached and his rank. 5. (*a*) The name of each of the officers referred to in paragraph 4 who joined the Canadian overseas forces. (*b*) The unit to which he was attached. (*c*) The rank with which he was attached. (*d*) The date at which he was attached. 6. The name of each of the officers referred to in each of the foregoing paragraphs who were in active service at the fighting front, the units with which they served, and the length of time they served. 7. Particulars as to each of the said officers showing where each one was on May 1, 1917, to what unit he was attached, and what his rank was at that time. 8. If any of these officers have gone to the fighting front since May 1, state name, unit, rank and date.—(*The Senate.*) *Not printed.*

263. Part return to an humble Address of the Senate to His Excellency the Governor General, dated the 8th instant, showing all the correspondence between the Department of Militia and Defence and Clarence J. McCuaig; also, between the same and the first Purchasing Committee appointed by Sir Robert Borden, of which the Honourable Robert Rogers was Chairman, and between the said Clarence J. McCuaig and the Committee of which the Honourable Sir Edward Kemp is or was Chairman, or with any of the members of the said committee.—(*The Senate.*).. .. ..*Not printed.*

264. Eighth Annual Report of the Commission of Conservation for the fiscal year ending 31st March, 1917. Presented by Hon. Mr. Burrell, September 1, 1917.. .. ..*Not printed.*

265. Return to an Order of the House of the 30th August, 1917, for a return showing:—1. The number of additional buildings and offices that have been rented by the various departments of the Government in the City of Ottawa during the calendar years, 1914, 1915, 1916 and 1917. 2. The names of the lessors, the length of the lease and the respective rentals of said buildings. 3. What department in each case is occupying said premises. Presented September 3, 1917.—*Mr. Sinclair*.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Continued.*

266. Return to an Order of the House of the 11th July, 1917, fo a copy of all correspondence and other documents relating to the granting to beam trawlers registered in the United States the privilege of using ports in the Province of Nova Scotia for the purchasing of supplies, the shipping of men, etc., without license therefor as required under the modus videndi. Presented September 3, 1917.—*Mr. Kyte*.. .. ..*Not printed.*

267. Copy of contract dated 8th March, 1917, between His Majesty the King and Wallace Shipyards, Limited, for the construction and delivery of one wooden auxiliary sailing ship. Also,—Copy of contract dated 1st June, 1917, between His Majesty the King and Lamond and Harrison for the construction and delivery of one wooden auxiliary sailing ship. Presented by Hon. Mr. Cochrane, September 3, 1917.. .. ..*Not printed.*

268. Return to an Order of the Senate, dated the 15th day of June last, for a return made to an Order of the House of Commons, of the 7th February, 1916, for a copy of all correspondence and reports on the claims of Sealers of British Columbia under the last treaty with the American Republic, and all papers connected therewith.—(*The Senate.*)
Not printed.

269. Copy of Order in Council, P.C. 2245, dated 3rd September, 1917, appointing the Deputy Minister of Justice, Oliver Mowat Biggar, of the City of Edmonton, John H. Moss, of the City of Toronto, Louis Loranger, of the City of Montreal, and Lt.-Col. H. A. C. Machin, of the Town of Kenora, Ont., a council to advise and assist in the administration and enforcement of the Military Service Act, 1917, to be known as the Military Service Council. Presented by Sir Robert Borden, September 4, 1917.. ..*Not printed.*

270. Return to an Order of the House of the 21st May, 1917, for a copy of all reports, letters, telegrams, correspondence and any other papers in connection with the question of locating the 210th Battalion at Regina and Moosejaw respectively during the winter of 1916-17. Presented September 6, 1917.—*Mr. Knowles*.. .. . .*Not printed.*

271. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the appointment of a man in charge of the storm signals at Grand Etang and Margaree Harbour. Presented September 6, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

272. Return to an Order of the House of the 7th May, 1917, for a return showing the different rural mail routes established in the constituency of Qu'Appelle since the 1st day of January, 1916, showing their location and date of establishment. Also, a list of all rural mail routes now being established or under consideration at the present time in the same constituency. Presented September 7, 1917.—*Mr. Thomson (Qu'Appelle).*
Not printed.

273. Return to an Order of the House of the 6th March, 1916, for a copy of all telegrams, letters, petitions and documents of all kinds in any way referring to the change in the Inverness-Margaree mail route from the west to the east of the Margaree river, from a point at Margaree Forks to Chapel Bridge. Presented September 7, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

274. Copy of Order in Council, P.C. 2199, dated 10th August, 1917: Rules and Regulations enacted in lieu of the Classification, Rules and Regulations contained in Order in Council, P.C. 1296, of the 15th May, 1917, in respect to War badges for members of the Canadian Expeditionary Force. Presented by Sir Edward Kemp, September 13, 1917.
Not printed.

275. Copy of Order in Council, P.C. 2552, dated 13th September, 1917, recommending that Certificates of Naturalization may be issued under the Naturalization Act, 1914, to alien enemies who have resided for many years in Canada, on its being shown that they are clearly in sympathy with the United Kingdom and its allies in the present war, and that they have no pro-German or other alien enemy affiliations or connections. Presented by Sir Robert Borden, September 14, 1917.. .. ..*Not printed.*

CONTENTS OF VOLUME 21—*Concluded.*

276. Copy of *Canada Gazette* dated 12th September, 1917, containing a list and location of Local Tribunals established to hear and decide applications for certificates of exemption from Military Service. Presented by Hon. Mr. Doherty, September 14, 1917.
Not printed.

277. Copies of Orders in Council, dated 15th September and 17th September, 1917, respectively, appointing Registrars for the Provinces of British Columbia, New Brunswick, Quebec, Saskatchewan, Manitoba, Ontario, Alberta and Prince Edward Island, under the provisions and for the purposes of the Military Service Act, 1917. Presented by Sir Robert Borden, September 17, 1917.. .. ..*Not printed.*

278. Return to an Address to His Excellency the Governor General of the 2nd May, 1917, for a copy of all Orders in Council, letters, telegrams, etc., to or from any employee of the Government in reference to the improvement and equipment of the life-saving station at Whitehead, Guysborough County, N.S. Presented September 17, 1917.—*Mr. Maclean (Halifax)*.. .. ..*Not printed.*

279. Return to an Order of the House of the 14th May, 1917, for a copy of all letters, petitions, correspondence, telegrams and reports received by the Government since September, 1911, to the present day, in any way referring to the dredging and building of piers at Mabou Harbour. Presented September 19, 1917.—*Mr. Maclean (Halifax)*.
Not printed.

280. Return to an Order of the House of the 13th August, 1917, for a return showing:—1. The different amounts paid for commissions and expenses in connection with the flotation of the different loans made by Canada since 1914. 2. The respective amounts paid in connection with each loan. Presented September 19, 1917—*Mr. Macdonald.*
Not printed.

281. Return to an Order of the House of the 5th September, 1917, for a copy of all correspondence, letters, telegrams, petitions, etc., in any way referring to an application for a public wharf at Chimney Corners, Inverness County, N.S. Presented September 19, 1917.—*Mr. Chisholm*.. .. ..*Not printed.*

282. Return to an Order of the House of the 29th August, 1917, for a return showing copies of all accounts, memoranda, vouchers, telegrams, letters, etc,, in reference to payments to George H. Boyce, of Windsor, N.S., District Foreman of Public Works Department, since his appointment to office. Presented September 19, 1917.—*Mr. Maclean (Halifax)*.
Not printed.

283. Return to an Order of the Senate dated the 1st day of March, 1916, showing a copy of all correspondence between the Government and the British Columbia Boards of Trade, and also between the Government and the Canadian Manufacturers' Association, in reference to the request made by the British Columbia Boards of Trade for the appointment of a Dominion Customs Officer at the Port of New York.—*(Senate.)*.
Not printed.

284. Part return to an humble Address of the Senate, dated the 14th of August, 1917, to His Excellency the Governor General, for a return showing the name of every judge of the Supreme, District and County Courts in all the provinces of Canada, for the year 1916, together with a statement of the moneys paid to each of such judges for that year for (*a*) salaries; (*b*) travelling expenses; (*c*) allowances of all kinds; (*d*) for services as Commissioners; (*e*) and any other payments; and also, showing the names of judges who have performed services as Commissioners, or in any other public capacity without compensation.—*(Senate.)*.. .. ..*Not printed.*

285. Return to an humble Address of the Senate, dated the 9th August, 1917, to His Excellency the Governor General, showing all the documents relating to the purchase by the Militia Department of "Bonnie Bel Air" from W. T. Rodden, Esq., a part of number nine (9) on the official plan and book of reference of the Parish of Lachine and specially the report of the lawyers who examined the titles.—*(Senate.)*.. ..*Not printed.*

CANADA

REPORT

OF THE

MINISTER OF PUBLIC WORKS

ON THE

WORKS UNDER HIS CONTROL

FOR THE

FISCAL YEAR ENDED MARCH 31

1916

Submitted in accordance with the Provisions of Chapter 39, Section 34, of the Revised Statutes of Canada.

PRINTED BY ORDER OF PARLIAMENT.

OTTAWA
PRINTED BY J. DE L. TACHÉ,
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY.
1917

[No. 19—1917.]

To Field Marshal, His Royal Highness Prince Arthur William Patrick Albert, Duke of Connaught and of Strathearn, K.G., K.T., K.P., etc.; etc., etc., Governor General and Commander in Chief of the Dominion of Canada.

I have the honour to lay before Your Royal Highness the Report of the Department of Public Works of Canada, for the fiscal year ended March 31, 1916.

I have the honour to be, sir,
Your Royal Highness's most obedient servant,

ROBERT ROGERS,
Minister of Public Works.

OTTAWA, November 17, 1916.

CONTENTS.

DEPUTY MINISTER'S REPORT.
CHIEF ARCHITECT'S REPORT.
CHIEF ENGINEER'S REPORT.
GENERAL SUPT. OF TELEGRAPH'S REPORT.
COLLECTOR OF REVENUE'S REPORT.
CHIEF ACCOUNTANT'S REPORT.
MISCELLANEOUS REPORTS.

ALPHABETICAL INDEX TO REPORT

Names of Places, etc.	Page.
A	
Abercrombie Point, N.S	113-698
Accountant's report	673
Acton, Ont., post office	23-684
Acton Vale, P.Q., public building	677
Acts of Parliament	766
Advocare, N.S	114-698
Agassiz, B.C., experimental farm	694
Ainsworth, B.C	318-712
Albert, N.B	167-702
Alberton, P.E.I	155-201
Alexandria, Ont., public building	23-684
Almonte, Ont., public building	23-684
Amaguadees Pond (Castle Bay) N.S	114-698
Amherstburg, Ont., public building	24-684
Amherst, P.Q	204
Amherst, N.S	114-674
" public buildings	3 698
" Point, N.S	115
Anderson's, Man	306-712
" Cove, N.S	167-698
" Hollow, N.B	157 702
Angers, Que	704
Annandale, P.E.I	155
Annapolis, N.S	115-698
" public buildings	3-674
Anse à Beaufils, P.Q	201-704
" Fougere P.Q	704
" Giles, P.Q	202-704
" la Cave, P.Q	202-704
" l'Islet, P.Q	202-704
" la Louise, P.Q	704
Anse au Griffon, P.Q	202-704
" St. Jean, P.Q	202-704
Anticosti, P.Q., telegraphs	542-626
Antigonish, N.S., public building	3-674
Appleby, N.B	703
Arichat, N.S., public building	674
Arisaig, N.S	115-698
Armitage Landing Ont	256-708
Arnprior, Ont	256-708
" " public building	684
Arrowhead, BC	318-712
Arthabaska, P.Q., public building	15 677
Art Gallery	769
Asbestos, P.Q., post office	677
Ashcroft, B.C., post office	694
Ashcroft-Dawson, telegraphs	604-641
Ashuapmouchuan River, P.Q	203
Athabaska River, Alta	712
Athabaska Landing, Alta., public building	692
Athens, Ont., post office	684
Atlin, B.C., post office	694
Aurora, Ont., post office	24-684
Aylmer, P.Q., post office	203 677
" wharf	203-704
Alymer, Ont., post office	24-684

Names of Places, etc.	Page.
B	
Baddeck, N.S., public building	115-674
" wharf	698
Baie du Vin, N.B	702
Baie St. Paul, P.Q	205-704
Baker's Point (East Jeddore), N.S	115-698
Bamfield, B.C	318-712
Banff, Alta., bridge	715
Barachois de Malbaie, P.Q	704
Bare Point, Ont	288-708
Barrie, Ont., public buildings	24-684
Barry's Bay, Ont	708
Bassano, Alta., post office	61-692
Bass River, N.S	115-698
Bath Bay, Ont	256-708
Bathurst, N.B., harbour	167-702
" public building	10-675
Batiscan, P.Q	203 704
Battleford, Sask., public building	691
Battery Point, N.S	698
Bay du Vin, N.B	169
Bay of Fundy telegraphs	556-624
Bayfield, Ont	256-708
Beacon Bar, N.B	192-703
Bear Cove, N.S	698
Bear River, N.S., post office	674
Beaton, B. C	712
Beauharnois, P.Q., post office	677
Beaumaris, Ont	207-708
Beauport, P.Q	204-704
Beaver Harbour, N. B	169-702
Beaverton, Ont	257-709
Beebe Junction, P.Q., immigration bldg	677
Belfast, P.E.I	156-701
Belle River, P.E.I	156-701
Bellevilie, Ont., post office	24-684
" " wharf	257-709
Beloeil, P.Q	204-704
Bensford, Ont	257-709
Berlin, (Kitchener) Ont., public building	25-685
Bersimis, P. Q	204-704
Berthier, P.Q	205-704
Berthierville, P.Q	205-704
" public building	15-677
Bic, P.Q	704
Big Bay, Ont	709
Biggar, Sask., immigration building	691
Big Harbour, N.S	116-698
Big Pond (Bape Baeton) N.S	116-698
Big Stone, Alta	304-712
Black Lake, P.Q., post office	677
Black Point, N.S	117-698
Black River, Ont	715
" N.B	169-702
Black's Harbour, N.B	169-702
Blanche River, Ont	258-709
" N.S	698
Blenheim, Ont., post office	684
Blind River, Ont	258-709
Blubber Bay, B.C	319-712

Names of Places, etc.	Page
B	
Boissevain, Man., post office	689
Bongarde, Ont	259-709
Bonshaw Wharf, P.E.I	157-701
Boucherville, P.Q	205-705
Boularderie Centre, N.S	117-698
Bowmanville, Ont., public building	25-684
" Ont	259-709
Bow River, bridge	516
Bracebridge, Ont., post office	25-684
Brampton, Ont., public building	25-684
Brandon, Man., public buildings	54-689
Brantford, Ont., public buildings	25-684
Brèche à Manon, P.Q	705
Bridgeburg, Ont., public building	25-684
Bridgetown, P.E.I	151-701
Bridgewater, N.S., public building	3-674
Bridges and roads	509-715
Brighton, Ont	259-709
British Columbia, dredging	444
" " harbours and rivers	318
" " telegraphs	614-641
Broad Cove, N.S	117-698
Brockville, Ont., public building	684
" "	799
Bruce Mines, Ont	259-709
Brudenell, P.E.I	157-701
Brussels, Ont., post office	684
Bryants Landing, P.Q	705
Bryson, P.Q., bridge	205
Buckingham, P.Q., public building	15-677
Buctouche Beach, N.B	170-702
Buctouche Harbour, N.B	171-702
Buctouche, N.B	170
Buildings leased	69
Burford, Ont., post office	25-684
Burks Falls, Ont., post office	684
Burlington, N.S	118-698
" Ont	259-709
" channel, Ont	261-709
" beach, Ont	709
Burnt Church, N.B	171-702
Burrard Inlet, B.C	694
Burton City, B.C	319-712
Burton Courthouse, N.B	186-702
C	
Cabbage Gut (La Have Islands), N.S	118-698
Cable ship *Tyrian*	645
Cache Bay, Ont	261-709
Cacouna, P.Q	206-679
Calgary, Alta., public buildings	61-672
Campbellton, N.B., public building	10-695
" " wharf	172-701
Campbell River, B.C	319-712
Campobello, N.B	201-704
Canada Creek, N.S	118-698
Canning, N.S., post office	674
" wharf	218-698
Canso, N.S	118-698
" public building	4-674
Canton Fabre, P.Q	213-705
Capilans, B.C	319
Cap à l'Aigle, P.Q	206-705

Names of Places, etc.	Page
C	
Cape Bald, N.B	173-702
Cape Breton, N.S., telegraphs	550-621
Cap Chat, P.Q	705
Cap de la Madeleine, P.Q	206-765
Cap d'Espoir, P.Q	705
Cape Cove, P.Q	705
Cape Negro, N.S	119-698
Cap Rosiers, P.Q	705
Cap Rouge, P.Q., experimental farm	677
Cap St. Ignace, P.Q	206-765
Cape Traverse, P.E.I	157-701
Caraquet, N.B	173-702
Carberry, Man., post office	689
Carcross, B.C., post office	694
Cardigan River, P.E.I	157-701
Caribou Harbour, N.S	119-698
Carleton, P.Q	207-705
Carleton Place, Ont., public building	684
Carman, Man., public building	54-689
Carrs Brook, N.S	119-698
Castor, Alta., immigration building	693
Caughnawaga, P.Q	207-705
Cavuga, Ont., public building	684
Cedar Creek, B.C	326-712
Cedars, P.Q	207-705
Cement laboratory	516
Centreville, N.S	698
Chamberlain Landing, N.B	702
Chamberlain's, N.B	198
Champlain, P.Q	705
Chapeau, Que., bridge	513
Chapel, P.E.I	158-701
Charlottetown, P.E.I., harbour	158-701
" public buildings	8-675
Chase, B.C., public buildings	694
Chateauguay, P.Q	208
Chatham, N.B., public buildings	10-675
" Ont., public buildings	684
Chaudière bridge	715
Chebovue, N.S	120-698
Chemainus, B.C	694
Chesley, Ont., public building	684
Chester, N.S	674
Cheticamp Point, N.S	120-698
Chezzetcook, N.S	698
Chicoutimi, P.Q., harbour	209-715
" public building	1-5-677
Chief Accountant, report	669
Chief Architect "	3
Chief Engineer "	111
Chief officers of Department	777
Chilliwack, B.C	320-713
" " post office	694
Chipman, N.B	173-702
Chocolate Cove, N.B	174
Chockfish, N.B	174-702
Clair, N.B., bridge	715
" immigration office	675
Clayocot, B.C	320-712
Clinton, Ont., public building	684
Coaticook, P.Q., public buildings	15-677
Cobalt, Ont "	681
Cobourg, Ont., public building	684
" harbour, public building	261-709

Names of Places, etc.	Page
C	
Cobourg, Ont., center pier	709
" east pier	709
Cocagne, N.B	174-702
" Bar, N.B	175
Collector of revenue	647
Collection of slide and boom dues	647
Collingwood, Ont	709
" graving docks	709
" post office	684
Colpoy's Bay, Ont	262 709
Columbia River, B.C	32 -712
Comeau Cove, N.S	120-698
" Hill, N.S	120-698
Commission, Georgian Bay Ship Canal	717
Como, P.Q	209-705
Comox, B.C., post office	694
Compton, P.Q., post office	677
Contract dredging	466
Contracts let	719
Cookshire, P.Q., public building	16-677
Copper Cliff, Ont., public building	684
Cornwall, Ont., public building	684
Coteau du Lac, P.Q	210-705
Courtenay, B C., post office	694
" Bay, N.B	703
" river, B.C	321-713
Cow Bay, N.S	121-698
Craigie Lea, Ont	262-709
Cranbrook, B.C., public building	694
Craven dam, Sask	315-712
Crawford Bay, B C	712
Crescent Island, Man	306-712
Cross Island, N.S	121-698
Cumberland, B.C., public building	694
Cumberland Lake, Sask	62-314
D	
Dalhousie, N.B	175-702
" public building	10-675
Darnley, P.E.I	159-701
Dartmouth, N.S., public buildings	4-674
" dredging	698
Dauphin, Man., public buildings	54-689
D'Autray, P.Q	210-705
Deep waterways Commission	717
Deer Park, B.C	712
Deloraine, Man., immigration building	689
Departmental buildings, Ottawa	682
Depot Harbour, Ont	709
Descents des Femmes, P.Q	211-705
Deseronto, Ont., public building	27-685
D'Esconsse, N.S	121-698
Desjardins, P.Q	211-705
Des Joachims bridge	513
Digby, N.S	121-698
" public building	4-674
Dignan's Bay, B.C	322-713
Dipper Harbour, N.B	175 702
D'Israeli, P.Q	211-705
Doe Lake, Ont	263-709
Doucets Landing, P.Q	212-705
Douglas Harbour, N.B	176
Douglastown, N.B	176-702

Names of Places, etc.	Page
D	
Dorchester Harbour, N.B	176-702
Dredging and plant	715
Dredging, British Columbia	441
" under contract	466
" Manitoba	423
" New Brunswick	348
" Nova Scotia	354
" Ontario	400
" operations	346
" plant, names, etc.	476
" P. E. Island	360
" Quebec	382
Dresden, Ont., post office	27-685
Drummondville, P.Q., public building	16 677
Dry docks	501-653
Duncan Station, B.C., post office	63-694
Dundas, Ont., public building	27-685
Dundee, P.Q., custom house	677
Durham, Ont., post office	685
" N.B	177-702
Dyers Bay, Ont	263-709
Dykemans Shoals, N.B	177-702
E	
Earle's, N.B	186-703
East Angus, P.Q. public building	16-677
East Chezzetcook, N.S	698
East End, N.S	121-698
East Ferry, N.S	122-698
East river, N.S	122-698
East Robson, B.C	713
East Templeton, P.Q	212-705
Eburne, B.C	322-713
Echaffaud aux Basques, P.Q	212-705
Ecum Secum, N.S	698
Edgewood, B.C	712
Edgewood-Nakusp, telegraphs	716
Edmonton, Alta., public buildings	62-693
" " wharf	712
" " bridge	516
Edmundston, N.B., immigration building	676
" " wharf	183-703
Edson, Alta, immigration building	693
Eganville, Ont., post office	27-685
Elk Lake, Ont	263-709
Elmira, Ont., post office	28-685
Elmwood, Man., public building	689
Elora, Ont., post office	28-685
Emerson, Man., public buildings	54-689
Entwistle, Alta., immigrant building	693
Escoumains, P.Q	212-705
Esquimalt, B.C. graving dock	653-713
Essex, Ont, public building	28-685
Estevan, Sask., post office	57-691
Evandale, N. B	186-702
Everett, N.B	703
Expenditure	718
F	
Fabre, P.Q	213-705
Fairville, N.B., post office	11-676
Fairhaven, N.B	177-702

Names of Places, etc.	Page
F	
Farnham, P.Q., public building	16-677
Fassett, P.Q.	705
Father Point, P.Q.	213-705
Feltzen South, N.S.	123-698
Fergus, Ont, public building	28-685
Fernie, B.C., public buildings	694
First South, N.S.	123-698
Fitzroy Harbour, Ont	263 709
Forest Ont., post office	685
Fort Frances, Ont., public buildings	685
Fort Frances, Ont.	709
Fort William, P.Q.	213-705
" Ont.	264-709
" Ont., post office, etc.	28-685
Fox Island, N.S.	123-698
Franklin Point, P.E.I	159-701
Fraser River, B.C	322-338 713
Fraserville, P.Q., public buildings	16-677
" " wharf	705
Freddy Channel, Ont. (Georgian Bay)	268-709
Fredericton, N.B., public buildings	11-676
" " wharf	702
Freeport, N.S.	123 698
French Lake, N.B.	177-702
French River, Ont.	709
" " N.S.	124-698
Fruid's Point, N.S.	126-698
G	
Gabarus, N.S.	124-698
Gagetown, N.B.	703
Galt, Ont	
" public buildings	28 685
Gambier Island, B.C	324-713
Gananoque, Ont., public buildings	29-685
" " wharf	270 709
Ganges Harbour, B.C	713
Gaspé, P.Q.	213
Gaspé Basin, P.Q.	705
Gatineau River, P.Q.	213
Georgetown, P.E.I., public building	9-675
" "	159-701
" Ont., post office	685
Georgeville, N.S.	124 698
Georgeville, P.Q.	214-705
Georgian Bay Canal	717
Georgian Bay Ship Canal, Royal Commission	717
Gimli, Man.	307-712
Glace Bay, N.S., public building	4-674
Glencoe, Ont., public building	29-685
Glenedon, B.C.	713
Glen Valley, B.C	324-713
Goat Island, Ont.	270-709
Goderich, Ont.	272-709
" public building	29-685
Gonzales Hill, B.C., observatory	63
Goose Bay, B.C.	325-713
Gooseberry Cove, N.B	702
Gore Bay, Ont.	685
Gower Point, B.C.	325 713
Grab-all, Tobique River, N.B.	188 703
Graham, P.Q.	705
G	
Graham's Landing, B.C	325-713
Granby, P.Q., public building	17-677
Grand Anse, N.B.	178-702
Grand Bend, Ont.	272-769
Grandes Bergeronnes, P.Q.	705
Grand Entrée, P.Q.	705
Grand Etang, N.S.	125-698
Grand Falls, N.B., post office	11-676
Grand Forks, B.C., public building	694
Grandigue, N.B.	702
Granol Lake, N.B.	178-702
Grand Marsh, P.Q.	705
Grand-Mechins, P.Q.	214-705
Grand'Mère, P.Q., post office	677
Grand Prairie, Sask., public building	693
Grand River, P.E.I.	701
Grand River, N.B.	188-703
Grande Rivière, P.Q.	215-705
Grand Ruisseau, P.Q.	214
Granville, N.S.	125-698
Gratuities, paid	717
Gravelbourg, Sask., public buildings	57-691
Gravenhurst, Ont., post office	685
Graving docks	501-653
Great Salmon River, N.B	179-702
Great Village, N.S.	125-698
Green River, N.B.	188-703
Greenwood, B.C., post office	694
Grenville, P.Q.	215-705
Gretna, Man., post office	689
Grimross Canal, N.B	179-702
Grimsby, Ont., post office	29-685
Grindstone, P.Q.	223-705
Grondines, P.Q.	705
Grosse Isle, P.Q.	223-705
" quarantine station	215-677
" dredging	215
" telegraphs	568-629
Grouard, Alta., lands office, etc.	693
" dredging	317-712
Guelph, Ont., public building	29 685
Guysboro, N.S., public building	4-674
H	
Haileybury, Ont	273-709
Halcyon, B.C.	325-712
Halifax, N.S., public buildings	4-674
" dry dock	698
Hamilton, Ont.	273
" public buildings	29-685
Hampton, N.B., public building	11
Hanover, Ont., post office	29-685
Hantsport, N.S., wharf	698
Harbourville, N.S.	125-698
Hardy Bay, B.C.	325-713
Harrigan Cove, N.S.	125 698
Harrington, P.Q.	216-705
Harriston, Ont., public building	30-685
Hartland, N.B., post office	11-676
Hatfield's Point, N.B	187 703
Havre aux Maisons, P.Q.	705
Hawkesbury, Ont., public building	685

Names of Places, etc.	Page
H	
Hawkesqury, Ont., dredging	275-514-709
Head of Chezzetcook, N.S.	126
Herring Cove, N.S.	126-698
Hespeler, Ont., post office	685
High Falls, P.Q.	216
High River South, Alta., post office	693
Higgins Shore, P.E.I.	160-701
Hillsborough, N.B., post office	12-676
Hilton, Ont.	275-709
Hnausa, Man.	307-712
Hochelaga, P.Q., post office	17
Holland River, Ont.	275-709
Honey Harbour, Ont.	275-709
Hospital Bay, P.Q.	705
Howardville, Man.	307-712
Hudson, P.Q.	216-705
Hull, P.Q., wharf	216-705
" public building	677
Humboldt, Sask., public building	57-691
Huntsville, Ont.	709
I	
Iberville, P.Q., public building	677
Icelandic r ver, Man.	307-712
Ile Perrot, P.Q.	217-706
Ile aux Coudres, P.Q.	217-706
Ile aux Fraises, P.Q.	706
Ile aux Morpions, P.Q.	706
Ile Verte, P.Q.	217-706
Indian Head, Sask., public buildings	57-691
Ingersoll, Ont., public buildings	30 685
International Commission, River St. John	717
Invermere, B.C., experimental farm	694
Inverness, N.S.	699
" public building	5-674
Investigation under Inquiries Act.	717
Iroquois River, N.B.	189-703
J	
Jamesville, N.S.	126-699
Jersey Cove, P.Q.	706
Jeune Lorette (Loretteville), P.Q., post office	677
Joggins Mines, N.S.	126-699
Joliette, P.Q., public buildings	17-677
Jonquières, P.Q., post office	17 677
Judique, N.S.	699
Juniper Island, Ont.	276-709
K	
Kagawong, Ont.	276-609
Kaministiquia River, Ont.	709
Kamloops, B.C., public buildings	695
" " wharf	326-713
Kamouraska, P.Q.	218-706
Kawartha Park, Ont.	709
Kelly's Cove, N.S.	125-699
Kelowna, B.C., public building	326-713
Kemp Head, N.S.	127-699
Kemptville, Ont., post office	30 685
Kenora, Ont., public building	30-685
" " wharf.	709
Kensington, Ont.	277-709
Kentville, N.S., public buildingt	5-674

Names of Places, etc.	Page
K	
Kerobert, Alta., immigration building	691
Kier' Shore, P.E.I.	160-701
Kildonan, Man.	308
Kincardine, Ont.	277-709
" " public building	30-685
Kincolith, B.C.	326 713
Kingsport, N.S.	127
Kingston, Ont.	277-502-653 709
" " public buildings	30-685
Kingsville, Ont.	278 709
" " vost office	685
Kitchener, (Berlin) Ont., pvblic buildings	685
Knowlton, P.Q., public building	677
Knowlton Landing, P.Q.	218-706
Kootenay Bay, B.C.	713
" Lake, B.C.	127
Kraut Point, N.S.	699
L	
Lachine, P.Q., public building	677
Lachute, " " "	677
Locolle, P.Q., immigration office	677
Lacombe, Alta., experimental farm	693
Ladysmith, B.C., public building	695
Lakefield, Ont.	279-709
" " post office	31-686
Lake Timiskaming	706
Lamberts Pier, P.E.I.	161
Lands leased	760
Lanoraie, P.Q.	218-706
Langley, B.C.	326 713
Lansdowne, Ont., post office.	686
Laprairie, P.Q.	218-706
" " public building	677
L'Ardoise, N.S.	127-699
L'Ardoise Beach, N.S.	127
La Salette, P.Q.	219
L'Assomption, P.Q., public building	17-677
Last Mountain Lake, Sask.	712
Lauzon, P.Q., dry dock	219-501-706
Lavaltrie, P.Q.	706
Leamington, Ont., wharf	279-709
" " public building	31-686
Leases	69-757
Leith, Ont.	279-709
Lennoxville, P.Q., experimental farm	678
Leonard's Cove, N.S.	128-699
Leonardville, N.B.	179-702
Le Pas, Man., post office	689
" wharf	712
Les Eboulements, P.Q.	219-706
Lethbridge, Alta., public buildings	62-693
Levis, P.Q, harbour	220-706
" graving dock	501-653-706
" public buildings	17-678
Lindsay, Ont., public building	31-586
L'Islet, P.Q.	219-706
Listowel, Ont., public buildings	31-686
Litchfield, N.S.	128-699
Little Anse, N.S.	128-699
" Bass River, N.S.	128-699
" Black River, N.B.	179-702
" Bonaventure, P.Q.	220-706

Names of Places, etc.	Page
L	
Little Bras d'Or, N.S	699
" Detoit, Ont	279-709
" Dipper Harbour, N.B	180-702
" Grassy, Ont	289-709
" Harbour, N.S	128-699
" River, N.S	699
" Sands, P.E.I	161-701
Liverpool, N.S., public building	5-674
Livingston Cove, N.S	129-699
Lloydminster, Sask., public buildings	58-691
Lockeport, N.S	129 699
Locks and Dams	502
London, Ont., public buildings	32-686
Long Point, N.B	187-703
Longueuil, P.Q., public building	18-678
" " wharf	220-706
L'Orignal, Ont	281-710
" " post office	686
Lords Cove, N.B	180-702
Lorraine, Ont	281-710
Lotbinière, P.Q	222-706
Louiseville, P.Q., post office	18
" "	222-706
Lower Burlington, N.S	694
Lower Caraquet, N.B	180-702
Lower St. Louis, N.B	189
Lunenburg, N.S., public building	6-674
" " harbour improvements	130 699
Mc	
McAdams, B.C	326-713
McClure's Bay, N.B	181 702
McDonald's Landing, B.C	326-713
McEachern's, P.E.I	161
McKay's Point (Judique), N.S	699
" " (Lower Washabuck), N.S	131
McKellar River, Ont	161
McNairs Cove, N.S	132-695
McPherson's Cove, P.E.I	161-701
M	
Mahan Harbour, N.S	132-699
Macleod, Alta., public building	693
Madawaska River, Ont	710
Magdalen Islands, P.Q., telegraphs	543 625
" " " breakwaters	223
Magnetawan, Ont	282 710
Magog, P.Q	223-706
" " public building	18 678
Mahoney's Beach, N.S	132-699
Malbaie, P.B	223 706
Maligant Cave, N.S	699
Malyeque, P.D.I	701
Manche à Epée, P.Q	706
Manitoba, dredging	442
" harbours	306
" public buildings	54
" bridges	515
Maple Creek, Sask., public buildings	58-691
Maples, B.C	386-713

Names of Places, etc.	Page
M	
Maquapit Lake, N.B	181-702
Margaree, N.S	133-699
Margaretsville, N.S	133-699
Maria, P.Q	224-706
Marieville, P.Q., public building	678
Maritime Provinces, telegraphs	550-621
Markham, Ont., post office	686
Martins Head, N.B	703
Marysville, N.B., public building	12-676
Massett, B.C	326-713
Matane, P.Q	706
" " post office	18-678
Matapedia road	515
Matsqui, B.C	327-713
Meaford, Ont	710
Medicine Hat, Alta., public building	62-693
Megantic, P.Q., post office	224-678
" wharf	706
Melfort, Sask., post office	58-691
Melita, Man., post office	689
Merrickville, Ont	686
Meteghan, N.S	133-699
Michipicoten Harbour, Ont	282-710
Middle County, N.S	133-699
Middleton, N.S., building	674
Midland, Ont	283-710
" " post office	32 686
Mildmay, Ont., post office	32-686
Mill Creek, N.S	133-699
Millidgeville, N.B	187-703
Milltown, N.B. public building	12
Milton, Ont., post office	32-686
Milverton, Ont., post office	32-686
Miminigash, P.E.I	162-701
Minaki, Ont	283-710
Mink Cove, N.B	189
Minnedosa, Man., public building	55-689
Minudie, N.S	133 699
Miscou, N.B	703
Mission City, B.C., public buildings	695
Mission River, Ont	264-709
Mistassini, P.Q	224-706
Mitchell, Ont., public building	32 686
Moncton, N.B., public building	12-676
" P.E.I., wharf	703
Montague, P.E.I., public building	675
" "	701
Montebello, P.Q	225-706
Mont Joli, P.Q., post office	678
Montmagny, P.Q., public buildings	678
" " wharf	706
Montreal River, Ont	283-502-710
Montreal, P.Q., public buildings	18-678
" " dry dock	706
Monuments	717
Moose Bay, P.Q	234-705
Moosejaw, Sask., public buildings	58-691
Moreen, Man., post office	55-689
Morrisburg, Ont., post office	686
Moshers Bay, N.S	134-699
Mount Forest, Ont., public building	33-686
Murray Bay, P.Q	325-706
" " " post office	20-679
Murray Harbour, P.E.I	162-701
Mushaboon, N.S	131-699

Names of Places, etc.	Page
N	
Naas River, B.C.	327-713
Names of Chief, Officers	777
Nanaimo, B.C	327-713
" " public building	63-695
Nappan, N.S., experimental farm	674
Napanee, Ont., public buildings	33-686
Natashquan, P.Q.	706
National Art Gallery	769
Necum Teuch, N.S	135-699
Neepawa, Man., post office	55-689
Negro Point, N.B.	703
Negure, N.B	182-703
Nelson, B.C., public buildings	695
New Brunswick, dredging	366
" public buildings	16
" telegraphs	556-624-624
" harbours	167
Newcastle, Ont.	284-710
Newcastle, N.B., public building	12 676
New Carlisle, P.Q.	225-706
New Glasgow, N.S., public building	6-675
New Harbour, N.S.	135-699
New Hazelton, B.C., post office	695
New Liskeard, Ont.	284-710
Newmarket, Ont., post office	33-686
Newport, P.Q	225-706
" B.C.	328-713
" P.E.I.	162
New Westminster, B.C.	328-713
" public buildings	695
Niagara Falls, Ont., public buildings	33-686
Nicolet, P.Q.	706-225
" dredging	226
" public building	679
Nicomen, B.C.	329-713
Nominingue, P.Q., immigration building	679
" " wharf	226-706
North Arm, B.C.	713
North Battleford, Sask., public building	59-691
North Bay, Ont.	284-710
" public building	33-686
North Belleville, N.S.	135-699
North Cameron, P.E.I	162
North Cardigan, P.E.I	701
North Lake, "	701
North Portal, Sask., immigration building	691
North River, P.E.I., bridge	162 701
North Shore, St. Lawrence, telegraphs	560-627
North Sydney, N.S.	135-699
" " public buildings	6-975
North Timiskaming, P.Q., bridge	514
North Vancouver, B.C., public buildings	695
" " drill hall	695
Northwest Cove, N.S.	699
Northwest Territories, telegraphs	572-631-636
Norway Bay, P.Q.	226-706
Norwich, Ont., post office	33-686
Nyanza, N.S.	136-699
O	
Oak Lake, Man., post office	689
Oak Point, N.B.	182-703
Oakville, Ont.	285-710
Officers of the Department	787
Oka, P.Q.	226

Names of Places, etc.	Page
O	
Okanagan River, B.C.	320-713
Ontario, bridges	510
" dredging	388
" harbours	256
" public buildings	23
" telegraphs	631
Orangeville, Ont., public building	34 686
Orillia, Ont., public building	34-686
Oromocto, N.B.	187 702
" Shoals, N.B	182
Osbornes, N.S.	136-699
Oshawa, Ont., post office	34-687
Ossekeag, N.B., post office	676
Ostree Lake, N.S	136-699
Ottawa, Ont., art gallery	772
" buildings and grounds	42-683
" experimental farm	43
" government house	46-683
" parliament building fire	34
" public buildings	35-692
" post office	37
" River	518-710
" " bridges	510
" roads and bridges	510
" slides and booms	503-549
" streets, repairs	683
Owen Sound, Ont.	285-710
" public building	47-687
P	
Palmerston, Ont., post office	47-687
Panmure Island, P.E.I.	162-701
Papineauville, P.Q.	227-706
Paris, Ont., public building	687
Parkhill, Ont., public building	687
Parrsboro, N.S., public building	6-675
Parry Sound, Ont.	710
Partridge Island, N.B.	183-703
Passe Pierre, P.Q	227-706
Peace River Crossing, Alta., lands office	694
Peggys Cove, N.S.	137-699
Pelee Island, Ont., docks	286-710
" " telegraphs	571-631
Pembroke, Ont., public buildings	47-697
Penetanguishene, Ont.	286-710
Penticton, B.C.	713
" post office	695
Percé, P.Q.	227-706
Peribonka, P.Q., immigration building	679
Perkin's Landing, P.Q	227
Pekin Landing, P.Q.	706
Perth, Ont., post office	687
Peterborough, Ont., docks	286-710
" " public buildings	48-687
Petewawa, Ont	286-710
Petite Rivière, N.S.	137-699
Petit Rivière, East, P.Q.	706
Petit Rocher, N.B	183-703
Petit Tourelle, P.Q.	706
Petrolea, Ont., public building	687
Piche Point, P.Q.	228-706
Picnic Island, Ont	282-710
Picton, Ont., public building	687

Names of Places, etc.	Page
P	
Pictou, N.S.	138-699
" public buildings.	6-675
Pictou Landing, N.L.	137
Pierreville, P.Q., public building.	20-679
Pierreville, P.Q., wharf.	228-706
Pigeon Lake, Alta.	712
Pincher Creek, Alta., forestry office.	694
Pine Creek, Man.	308-712
Pinette, P.E.I.	163-701
Piopolis, P.Q.	228-706
Pitt Lake, B.C.	330-713
Plaster Mines, N.S.	699
Pleasant Point, Ont.	282-710
Plessisville, P.Q., post office.	20-679
Pointe à Brousseau, P.Q.	229 706
Pointe à Coté, P.Q.	228
Pointe à Elie, P.Q.	223-706
Pointe à Pizeau, P.Q.	223-706
Pointe à Trudel, P.Q.	706
Pointe aux Esquimaux, P.Q.	229-706
Pointe aux Trembles, P.Q.	230-706
Pointe Cavagnole, P.Q.	230-706
Pointe Claire, P.Q.	230 706
Point Edward, Ont.	288-710
Point Jaune, P.Q.	706
Pointe Piche, P.Q.	706
Point Prim, P.E.I.	701
Pointe St. Pierre, P.Q.	230-706
Pointe Valois, P.Q.	706
Pond Creek bridge.	513
Portage du Fort, bridge.	513
Portage la Prairie, Man., public building.	55-689
Portage River, N.B.	184 703
Port Alberni, B.C.	330-713
" " post office.	63-695
Port Arthur, Ont.	288-710
" " public buildings.	48-687
Port aux Saumons, P.Q.	231-706
Port Bruce, Ont.	290-710
Port Burwell, Ont.	290 710
Port Clemans, B.C.	331 713
Port Colborne, Ont., public building.	48-687
Port Credit, Ont.	710
Port Dufferin, N.S.	138 699
" West, N.S.	138
Port Elgin, Ont.	291-710
Port Essington, B.C.	713
Porters Lake, N.S.	139 699
Port Felix, N.S.	139-699
Port George, N.S.	699
Port Hastings, N.S.	139-699
Port Hawkesbury, N.S.	140-700
Port Hood, N.S.	140-700
Port Hope, Ont., harbour.	291-710
" " public building.	48-687
Portland, Ont.	291-710
Port Maitland, Ont.	292-710
Port Mulgrave, N.S.	700
Port Perry, Ont.	292-710
" " post office.	687
Port Rowan, Ont.	292 710
Port Selkirk, P.E.I.	163-701
Port Stanley, Ont.	292-710
Poupore, P.Q.	231
Powell River, B.C., post office.	695
" "	331 714
Pownal, P.E.I.	163-701

Names of Places, etc.	Page
P	
Prescott, Ont., public buildings.	687
Preston, Ont., post office.	48-687
Prince Albert, Sask., public buildings.	59-691
" " protection works.	316-712
Prince Edward Island, dredging.	360
" " harbours.	155
" " public buildings.	8
Prince Rupert, B.C.	714
" " public buildings.	695
Printing and stationery.	697
Proctor Narrows, B.C.	331-714
Properties purchased and sold.	749
Providence Bay, Ont.	293-710
Public buildings, Alberta	61
" British Columbia	67
" Manitoba	54
" New Brunswick	10
" Nova Scotia	3
" Prince Edward Island	8
" Ontario	23
" Quebec	15
" Saskatchewan	57
" Leased.	69
Pugwash, N.S.	140-700
Pumpkin Point, Ont.	710
Q	
Quaco, N.B.	184-703
Quatsino, B.C.	332-714
Quebec, dredging.	332
" bridges	510
" harbours	201
" public buildings.	15
" telegraphs.	560-627
Quebec city, harbour.	706
" public buildings.	20-679
Queen Charlotte City, B.C.	332
Quinze dam.	518
Quisibus River, N.B.	189 703
Quoddy, N.S.	140 700
Quyon, P.Q.	231 706
R	
Rang St. Ignace, P.Q.	209
Rainy Cove, N.S.	140-700
Rainy River, Ont.	710
Recapitulation	718
Red Deer, Alta., public building.	694
Red Head, P.Q.	706
Red Point, P.E.I.	164 701
Red Rapids, N.B.	189-703
Red River, Man.	308-712
Red Store, N.B.	184-703
Refuge Bay, B.C.	332-714
Regina, Sask., public building.	59-691
Renata Bay, B.C.	713
Renforth, N.B.	187-703
Renfrew, Ont., public building.	687
Rents.	653
Repentigny, P.Q.	706
Restigouche River, N.B.	185
Reston, Man., post office.	689
Revelstoke, B.C.	320
" " post office.	695
Revenue	11

Names of Places, etc.	Page
R	
Rexton, N.B	185–703
Richards Landing, Ont	294–710
Richibucto, N.B	185–703
" " public building	12 676
" Cape, N.B	186–702
Richmond, P.Q., public buildings	680
Ridgetown, Ont., post office	687
Rigaud, P.Q., public building	22–680
Rigaud, P.Q., wharf	232–706
Rimouski, P.Q	232–706
" public building	680
Riverside, B.C	332–713
Rivière aux Renards, P.Q	232–706
Rivière Batiscan, P.Q	706
Rivière Blanche, P.Q	233 706
Rivière Bois Blanc, P.Q	233–706
Rivière Chateauguay, P.Q	706
Rivière du Lièvre, P.Q.,	233–706
" " " lock	502
Rivière du Loup, P.Q. (Fraserville)	234–706
" " " (Louiseville)	233–706
Rivière Gatineau, P.Q	706
Rivière Girard, P.Q	234–706
Rivière Jésu, P.Q	234–706
River John, N.S	141–700
Rivière la Pipe, P.Q	232–706
Rivière Nicolet, P.Q	706
Rivière Ouelle, P.Q	234–706
Rivière Petite Bergeronne, P.Q	235
Rivière Richelieu, P.Q	706
Rivière Saguenay, P.Q., slides	569–653
Rivière St. Charles, P.Q	235
River Ste Croix, N.B	702
River St. John and tributaries	186–703
Rivière St. Louis, P.Q	237–706
" " N.B	703
Rivière St. Maurice, P.Q., dredging	706
" " " slides	
River Thames, Ont	294–710
Rivière Tikouabé, P.Q	706
Rivière Verte, P.Q	238–706
Roads and bridges	509–713
Robbins Landing, Ont	710
Roberval, P.Q	238 706
" " public buildings	22–680
Robinson's Island, P.E.I	164–701
Roblin, Man., forestry office	689
Roche's Point, Ont	295–710
Rock Bay, B.C	714
Rock Island, B.C	713
Rock Island, P.Q., post office	680
Rockland, N.S	141–700
Rocky Mountain Park, Alta	694
Rocky Point, P.E.I	164–701
Rondeau, Ont	295–710
Ross Ferry, N.S	141–700
Rossland, B.C., public building	695
Rosthern, Sask., expt'l. farm	691
Round Hill, N.S	142–700
Royston, B.C	714
Ruby Lake, Sask., forest office	691
Rustico, P.E.I	165–701
St.	
St. Adelaide de Pabos, P.Q	239–706
St. Agathe des Monts, P.Q., post office	22–680

Names of Places, etc.	Page
St	
St. Alphonse, P.Q	706
" de Bagotville, P.Q	239
St. André, P.Q	239
St. André de Kamouraska, P.Q	706
St. Andrew's N.B	190–703
" P.Q	239–706
St. Andrews rapids, Man	310–712
Ste. Anne de Beaupré, P.Q	239–606
St. Anne de Bellevue, P.Q., post office	680
" " " wharf	240–706
St. Anne de Chicoutimi, P.Q	241
" " Pocatière, P.Q., expt'l farm	680
Ste. Anne des Monts, P.Q	241–706
Ste. Anne du Saguenay, P.Q	706
St. Antoine de Richelieu, P.Q	241–706
St. Barthélemi, P.Q	241–706
St. Boniface, Man., public building	55–690
St. Catharine's, Ont, post office	49–687
St. Charles, P.Q	241
St Charles de Richelieu, P.Q	706
St. Charles river, N.B	190–703
Ste. Clothilde, P.Q	706
Ste. Croix, P.Q	706
" River, N.B	191
St. Damien, P.Q	242–706
St. Denis, P.Q	242–706
St. Eloi, P.Q	242–706
St. Emilie, P.Q	242–706
St. Eustache, P.Q., post office	680
Ste. Famille, P.Q	706
St. Félicien, P.Q	707
St. Felicité, P.Q	243–707
St. Félix de Valois, P.Q., post office	680
St. Francis river, N.B	189–703
St. François du Lac, P.Q	243
St. François, Isle de Orléans, P.Q	708
St. François, North, P.Q	708
St. Fulgence, P.Q	243–708
St. Gabriel de Brandon, P.Q., post office	22–680
St. Gédéon, P.Q	243–708
Ste. Geneviève, P.Q	243–708
St. George de Malbaie, P.Q	708
St. George de Beauce, P.Q	680–780
St. George, N.B., public building	676
St. Jo le-froye, P.Q	243–708
St. Gregoire de Montmorency, P.Q	243–708
St. Henri, P.Q, post office	22
St. Hyacinthe, P.Q., public building	22–680
St. Ignace de Loyola, P.Q	244–708
St. Irénée, P.Q	244–708
St. Jean des Chaillons, P.Q	245–708
St. Jean de Matha, P.Q., post office	680
St. Jean d'Orleans, P.Q	245–708
Ste. Jean de l'Ile Perrot, P.Q	246
St. Jean Port Joli, P.Q	246–708
St. Jérôme, P.Q.,	247–708
" " public building	680
St. John, N.B., harbour	192 703
" N.B, river	703
" N.B., public buildings	12–676
St. John Creek, Ont	296–710
" West, N.B	704
" " public buildings	14
St Johns, N.B., public building	680
" P.Q	708
St. Joseph de Sorel, P.Q	247–708
St. Joseph's, N.S	142–700

Names of Places, etc.	Page
st	
St. Lambert, P.Q., post office	680
St. Laurent, P.Q.	708
St. Louis River, P.Q.	237–706
St. Majorique, P.Q.	247–708
St. Marc, P.Q.	247–708
St. Mary's, N.S.	700
St. Mary's, Ont., public building	49–687
St. Mary's Bay, P.E.I.	165–701
" river, N.S.	142
St. Maurice River, P.Q.	248
" " slides	508–651
St. Michel, de Bellechasse, P.Q.	249 708
" des Saints, P.Q.	249–708
St. Nicholas, P.Q.	708
St. Omer, P.Q.	249–708
St. Ours, P.Q., post office	680
St. Paul, P.Q. (Isle aux Noix)	708
St. Roch des Aulnaies, P.Q.	250–708
Ste. Rose, P.Q., post office	680
St. Siméon, P.Q.	250 708
St. Stephen, N.B., public building	14–676
Ste. Thérèse, P.Q., pub ic building	680
St. Thomas, Ont., public building	49–687
St. Ulric, P.Q.	708
St. Valier, P.Q.	250–708
s	
Saanich Mountain, B.C., Dominion Obser vatory	63
Saanichton, B.C., experimental farm	695
" " wharf	333–714
Saguenay river, slides	509–653
Salaries of clerks of works	697
Salmon Arm, B.C.	695
Sand Point, N.B.	333–714
Sand Point, Ont.	296–710
Sandwich, Ont., public building	687
Sandy Cove, N.S.	700
Sarnia, Ont.	142–296 710
" public building	49–687
Saskatoon, Sask., public building	60–691
Saskatchewan river	315–712
Saugeen river, Ont.	296
Sault au Mouton, P.Q.	250–708
Sault Montmorency, P.Q.	708
Sault Ste. Marie, Ont., public building	48–689
" "	299–710
Scott, Sask., experimental farm	692
Seaforth, N.S.	142–700
Seaforth, Ont., public building	49–687
Seal Cove, N.B.	196–704
Seaside Park, B.C.	333–714
Selkirk, Man., public building	690
"	310–653 712
Selma, N.S.	143–700
Senneville, P.Q.	708
Severn River, Ont., (at Washago Dam)	710
Seymour Arm, B.C.	333–714
Shad Bay, N.S.	143 700
Shag Harbour, N.S.	143–700
Shanty Bay, Ont.	302–710
Shawinigan, P.Q., post office	680
Shawville, P.Q., post office	23–680
Shediac, N.B.	196 704
Shediac Island, N.B.	197
Shelburne, N.S.	680–700
" public building	675
Shelborne, Ont., public building	49–687
Shigawake, P.Q.	251–708
Shippigan Gully, N.B.	197–704
Shoal Lake, Man., post office	690
Short Beach, N.S.	143–700
Shubenacadie, N.S., public building	675
Shushartie, B.C.	334–714
Shuswap, B.C.	334–714
Sicamous, B.C.	334–713–714
Sidney, B.C., experimental farm	695
" public building	334–714
Siegas River, N.B.	189–703
Sight Point, N.S.	143–700
Silver Centre, Ont.	302–710
Simcoe, Ont., public building	49–687
Skeena River, B.C.	334–714
Skidegate, B.C.	334–714
Slides and booms.	503 649–715
Smiths Falls, Ont., public building	49–687
Smiths Cove, N.S.	144–700
Snake Island, Man.	311–712
Somas River, B.C.	334 714
Sorel, P.Q., public buildings	680
" wharf	708
Souris, P.E.I., harbour	165–701
" " public building	9–675
Souris, Man., post office	55–690
South Bar, N.S.	145–700
South Gut, N.S.	145–700
South Ingonish, N.S.	145–700
South Lake, N.S.	146–700
Southampton, Ont.	710
South Miramichi, N.B.	197
Spiller River, B.C.	335–714
Springhill, N.S., public building	7–675
Spruce Island, Man.	311–712
Spry Bay, N.S.	700
Squamish, B.C., wharf	335 714
Squateck, P.Q.	251–708
Steelton, Ont., post office	56–687
Steveston, B.C.	336–713
Stewart, B.C.	714
Stikine River, B.C.	714
Stonehaven, N.B.	198 704
Stonehurst, N.S.	146–700
Stonewall, Man., post office	56–690
Stratford, Ont., public building	6–7
Stratford Centre, P.Q.	251–708
Strathroy, Ont.	50
Strathroy, Ont., post office	687
Stuart River, B.C.	713
Sturgeon Bay, Man.	311
Sturgeon Falls, Ont.	303–711
" post office	687
" River, Ont.,	711
" " Alta.	368–712
Sudbury, Ont., post office	687
Summerland, B.C.	337–714
" experimental farm	695

Names of Places, etc.	Page
S	
Summerside, P.E.I., public buildings	9
Summerville, N.B	703
" and Bayswater, N.B	188
" N.S	146–700
Summerside, P.E.I	675
Surrettes Island, N.S	166 700
Surveys and inspections	717
Sussex, N. B., public building	676
Sutherland, Sask., forest nursery station	60
Swan River, Man., immigration building	690
Swims Point, N.S	700
Swift Current, Sask., public building	60–692
Sydeham, Ont	303–711
Sydney, N.S., harbour	147–700
" public buildings	7–675
Sydney Mines, N.S., public building	7–675
Syringa Creek, B.C	713
T	
Tabusintac, N.B	704
Tachi river, B.C	713
Tamboline Slough, B.C	337 713
Tancook Island, N.S	700
Tatamagouche	147–700
Telephones	540
Telegraph lines, generally	525–716
" reports	525
" revenue	539
" staff	527
Terrebonne, P.Q., public building	680
The Forks, Man	312 712
The Haulover, N.S	148–700
The Range, N.B	199
Thessalon, Ont	303–711
Thetford Mines, P.Q., public building	680
The Squam, N.S	148–700
The Thrum, N.S	149–700
The Wharves, N.S	149–700
Thomas Creek, N.B	199–704
Thompson River, B.C	537–335
Thornbury, Ont	304–711
Three Fathom Harbour, N.S	149–709
Three Rivers, P.Q., public buildings	23–680
" " harbour	252 708
Ticouche River, P.Q	251
Tidnish, N.S	700
Tignish, P.E.I., public building	9–675
Tignish, P.E.I	166–701
Tilbury, Ont., post office	51–687
Tilsonburg, Ont., post office	51–687
Tobermory, Ont	711
Tobique Narrows, N.B	189 703
Toronto, Ont., harbour	301–711
" public buildings	51–688
Tourville, P.Q	708
Total expenditure of department	718
Tracadie, N.B	199–704
" N.B., lazaretto	15–677
Transcona, Man	690
Traverse à Ricard, P.Q	708
Trent and Newcastle slides	509–652
Trent Bridge, Ont	304–711
Trenton, Ont	305–711
" " public building	51–689
" " N.S	700
Trois Lacs, P.Q	252–708
Trois Pistoles, P.Q., post office	681
Trois Rivières, P.Q	252
Trout Cove, N.S	150–700
Trout River, N.B	189–703
Truro, N.S., public buildings	7–675
Turner's Breakwater, N.B	190–703
Tusket, N.S	700
Two Beacon Bar, B.C	338–714
Turion S.S. cable ship	645
U	
Union Bay, B.C	338–714
" " " post office	64–695
Unity, Sask., immigration building	692
Upper Caraquet, N.B	704
" Jemsez, N.B	200
" Maugerville, N.B	188
" Ottawa storage dams	518
" Port, N.S	150
" " Latour, N.S	150–700
" Prospect, N.S	150–700
" Salmon River, N.B	200–704
" St John River, N.S	188
Uxbridge, Ont., post office	53–689
V	
Vails Point, Ont	711
Valdez Island, B.C	339–714
Valleyfield, P.Q., public building	686
"	700
Vancouver, B.C., public buildings	61–695
" " harbour	339–714
Varennes, P.Q	708
Vaudreuil, P.Q	708
Verchères, P.Q	708
Verdun, P.Q	708
" P.Q., post office	681
Vermilion, Alta, immigration building	694
Vernon, B.C., public building	696
Vernon River, P.E.I	166–701
Victoria, B.C., public buildings	66–696
" Harbour, B.C	341–714
Victoriaville, P.Q., public building	23–681
Viking, Alta., immigration building	694
Ville Marie, P.Q	255–708
Virden, Man., post office	56 690
Voglers Cove, N.S	151–700
W	
Wadena, Sask., buildings	692
Wainwright, Sask., immigration building	694
Walkerton, Ont., public building	53–689
Walkerville, Ont., public building	53–689
Wallace, N.S	700
Wallaceburg, Ont., post office	689
Washabuck Centre, N.S	152–700
Waterloo, Ont., public building	689
Waterville, P.Q., post office	681
Waterways Commission	
Wedgeport, N.S	700
Weir, N.B	703

Names of Places, etc.	Page
W	
Welchpool, N.B.	704
Weldford, N.B.	200-704
Welland, Ont., public building.	53-689
Wellington, Ont.	305-711
Wendover, Ont.	305-711
West Arichat, N.S.	704
West Berlin, N.S.	701
West Branch, N.B.	201
West Chezzetcook, N.S.	344-713
Westham, B.C.	701
West Head, N.S.	167-702
West Point, P.E.I.	152-701
West Pubnico, N.S.	702
West River, P.E.I.	186
" St. John, N.B.	7-675
Westville, N.S., public building	694
Wetaskawin, Alta., public building.	61-692
Weyburn, Sask., post office.	675
Whitby, Ont. harbour	711
" public building	53-689
White Rock, B.C.	344 714
Whites Bluff, N.B.	703
Whonnock, B.C.	345-713
Whycocomagh, N.S.	153-706
Wilcox Landing, B.C.	348-714
Wilkie, Sask., public building.	692
Williams Head, B.C., quarantine station 67,	696 714
Wilson's Beach, N.B.	201-104
Windsor, Ont., public buildings.	53-689
" " dock.	306-711
" N.S., public building.	7-675
W	
Windsor, N.S., harbour	153-701
Wine Harbour, N.S.	701
Wingham, Ont., public building	53-689
Winnipeg, Man., public buildings	56-690
" " harbour	312-712
Winnipeg Beach, Man.	313
" North, " armoury building	57
Winnipegosis, Man.	313-712
Wolfville, N.S., public building.	8-675
" wharf	701
Woodstock, N.B., public building	677
" Ont., "	54-689
Woodwards Cove, N.B.	201-704
Woolhampter, N.B.	1906703
Wreck, N.S.	701
" Cove, N.S.	153
Y	
Yamachiche, P.Q.	708
Yamaska River, P.Q., lock and dam.	503-708
Yarmouth, N.S.	154-701
" public building	8-675
" Bar, N.S.	154
Yorkton, Sask., public buildings	61-692
York bridge, Ont.	514
Yukon, public buildings.	697
Yukon river, B.C.	714
" telegraphs	604 641

REPORT

OF THE

DEPUTY MINISTER OF PUBLIC WORKS

FOR THE YEAR ENDED MARCH 31

1916

REPORT

OF THE

DEPUTY MINISTER OF PUBLIC WORKS

FOR THE

FISCAL YEAR ENDED MARCH 31, 1916.

Department of Public Works, Canada,
Ottawa, October 31, 1916.

Honourable Robert Rogers,
Minister of Public Works,
Ottawa, Ont.

Sir,—I have the honour to submit the report of the operations of the various branches of the Department of Public Works, for the fiscal year ended March 31, 1916.

EXPENDITURE.

The departmental outlay during the year 1915-16 for construction, maintenance and operation, amounted to the sum of $19,539,298.04, which may be detailed as follows:—

Harbour and river works	$ 7,401,895 89
Dredging plant, etc.	3,875,713 31
Slides and booms	115,418 37
Roads and bridges	44,742 15
Public buildings	6,857,205 40
Telegrams	742,692 04
Miscellaneous	501,630 88
	$19,539,298 04

As intimated in last year's report, there has been a most substantial reduction in the expenditure. This has been accomplished by strict adherence to the policy laid down shortly after the outbreak of the war, namely, to limit departmental operations to the carrying out of works already under contract and in process of construction.

It will be noted after comparison is made of the above figures, with those for the fiscal year 1914-15, that there has been a consistent reduction in every branch of the department. The total expenditure last year was $29,283,316.82. A sum of nearly ten million dollars was, therefore, made available for other pressing present requirements.

REVENUE.

The revenue for the year amounted to the sum of $508,906.32, and is made up as follows:—

Slides and booms	$108,227 41
Graving docks	64,216 24
Rents	90,129 39
Telegraphs	181,227 04
Casual revenue	65,106 24
	$508,906 32

These figures show an increase of $22,470.38 over last year's income. While there has been a falling off in revenue from rents and telegraphs, the decrease under these two headings has been more than compensated by the gain in slides and booms and in graving docks. The increase in slides and boom dues was principally from the St. Maurice district, due to the fact that a considerable number of logs, left behind the previous year for want of water, were brought down and these, in addition to greatly increased cuts required to supply the new paper and pulp mills at Three Rivers, actually increased the number of logs from 5,745,291, in 1914-15, to 9,506,300.

The graving docks at both Esquimalt, B.C., and Levis, Que., show a considerably increased business: the former having docked thirty-one vessels, as compared with twenty-six vessels in the previous year. His Majesty's and Canadian Government vessels occupied this dock one hundred and fifty-seven days, as against sixty-one days in 1914-15. This was to be expected under existing war conditions.

HARBOUR AND RIVER WORKS.

The aggregate expenditure in this branch of the department amounted to the sum of $7,501,895.89, a decrease of over three million dollars from last year's outlay. Work was continued steadily on the larger undertakings which were under contract in the principal Canadian harbours; and a detailed account of the progress made in each case will be found in the report of the Chief Engineer.

The following is a list of the works which have been completed during the year:—

Nova Scotia.—Wharves at Cape Negro, North Belleville and Shad Bay, and breakwaters at Smiths Cove and Voglers Cove.

Prince Edward Island.—A wharf at Rocky Point and a new wharf at Brudenell.

New Brunswick.—Wharves at Earles, Long Point, Milledgeville, Renforth, West Branch and Summerville, and wharves at Fairhaven and Red Store were transferred to our control by the Provincial Government.

Quebec.—Wharves at Bersimis and Nominigue and a breakwater at Malbaie.

Ontario.—Wharves at Minaki, Portland, Trent Bridge and Wellington, and revetment walls at Burlington and Hamilton.

Saskatchewan.—A wharf at Prince Albert.

British Columbia.—Wharves at Clayoquot, Eburne, McDonalds, Port Alberni, pier and wharf, Vancouver, and a wharf at White Rock, also new wharves to replace old at Queen Charlotte City, Refuge Bay, Skidegate and Spiller River; a float was constructed at Seaside Park, and the breakwater was completed at Victoria.

DREDGING.

The expenditure under this heading amounted to $3,875,713.31, a decrease of nearly one and one-quarter million dollars from that of the preceding year. Following out the policy laid down during the war, only works under contract and most urgent harbour improvements have been proceeded with, which has resulted in the outlay on account of contract dredging being decreased by over one million dollars; the remainder of the saving being due to the fact that not all of the departmental plant was put in commission.

Dredging operations were carried on at the following places where an expenditure of $10,000, or over, was made:—

Nova Scotia.—Pictou, Lockeport, Lunenburg, Mabou, Smiths Cove, Trenton and Yarmouth.

Prince Edward Island.—Charlottetown, Grand River and Rocky Point.

New Brunswick.—Campbellton, Bathurst, Buctouche, Maquapit Lake, Oak Point and St. John Harbour.

Quebec.—Grande Entrée, Longueuil, Port au Saumon, River Batiscan, River du Lièvre, River St. Louis, Ste. Anne de Bellevue and Verdun.

Ontario.—Belleville, Cache Bay, Fort William, Goat Island, Hamilton, Hawkesbury, Michipicoten (Quebec harbour), Picnic Island, Port Arthur, Port Stanley, Sault Ste. Marie and Toronto.

Manitoba.—Lake Winnipeg and Red River.

Saskatchewan.—Big Stone River at Cumberland Lake.

British Columbia.—Courtenay River, Eburne, Fraser River, Nanaimo, New Westminster, Nicomen, Proctor Narrows, Skeena River, Vancouver (False Creek), Victoria, and First Narrows at Vancouver.

Reference was made in last year's report to the satisfactory performance of dredge *No. 123*. This dredge was continued in the construction of the new channel approach below the lock at Ste. Anne de Bellevue. The material is exceedingly hard and difficult to remove, consisting of rock, *in situ*, clay, boulders and hard pan. During the season, 19,360 cubic yards of clay, boulders and hardpan, were removed and 4,960 cubic yards of rock. The total cost amounted to $17,850.23, or a unit price per cubic yard of seventy-three (73c.) cents, place measurement. All this material was removed without drilling or blasting, which shows a considerable saving over the ordinary method which would have cost from $3.50 to $4 per cubic yard for rock.

Dredging improvements at the First Narrows, Vancouver Harbour, B.C., have been continued during the past season by departmental dredge *No. 306* (*Mastodon*), and the conditions at that place are very much improved. The channel was originally 400 feet in width between 30 feet contour depth lines and it will probably be completed this year to a width of 1,200 feet and to a depth of 35 feet.

The deep water area in St. John Harbour, N.B., known as the Beacon Bar area, has been completed during the past season to a grade depth of 32 feet below extreme low water spring tides. This work was commenced in 1909 and the final estimate shows the removal of 8,043,513 cubic yards, at a cost of $3,112,130. This work affords the necessary depth for terminal improvements in West St. John.

The channel of the St. Mary's river, opposite Sault Ste. Marie, Ont., has been considerably improved by the removal of some 127,000 cubic yards, place measurement, of rock, *in situ*. This work, which was continued during the years 1912, 1913, 1914 and 1915, has now been completed.

Continued success is being obtained from the use of the Lobnitz rockbreaker in the Maritime Provinces. This rockbreaker has been employed at Buctouche, N.B., in breaking up sandstone rock; at Canso, N.S., in breaking up granite of a very hard nature; and at Lunenburg, N.S., in breaking up rock of a shale formation. The cost of this work is very much less than if the work were done by contract.

It has been thought advisable to put out of commission several dredges that have gone beyond repair and were of an obsolete type and, accordingly, dredges *Nos. 105, 108* and *113* were dismantled. This plant operated in the provinces of Ontario and Quebec.

Dredge *No. 206*, operating in Last Mountain Lake, Sask., was also dismantled and the machinery installed in dredge *No. 210*, operating on Lake Winnipegosis.

PUBLIC BUILDINGS.

There was expended, under the direction of the Chief Architect, the sum of $6,857,205.40, which was over four and one-half million dollars less than last year. Of this amount, the sum of $3,778,665.67 was for repairs and maintenance of public buildings throughout the Dominion.

The following buildings were completed during the fiscal year:—

Nova Scotia.—Dartmouth public building.

New Brunswick.—Milltown public building and St. John new post office.

Quebec.—Coaticook, East Angus, Jonquières, Matane, Murray Bay, Ste. Agathe des Monts, public buildings; Montreal, new examining warehouse.

Ontario.—Aurora, Brantford (new), Burford, Elmira, Hanover, Milton, Milton, Newmarket, Norwich, Preston, Sudbury, and Walkerville, public buildir Barrie, Galt, Listowel, Napanee and Pembroke, drill halls; Toronto postal sta "G," and Fort William and Port Arthur examining warehouses.

Manitoba.—Winnipeg North, armoury.

Alberta.—Bassano public building, Calgary examining warehouse, and Edmonton drill hall.

British Columbia.—Vancouver postal station "C," and Vancouver detention building.

PARLIAMENT BUILDINGS FIRE.

On the night of February 3, 1916, the Parliament Buildings of Canada were destroyed by fire. The conflagration started about 8.55 p.m., in what was known as the reading room, the contents of which were of a highly inflammable nature, consisting of files of newspapers from all parts of the Dominion. These were placed on six double reading desks with shelves underneath. A wooden screen also ran around the room upon which newspaper files were hung. This screen, as well as the fittings referred to, were of white pine, oiled and varnished, an ideal fuel for the flames. The fire originated in a file of papers on the shelf of one of the reading desks, near the House of Commons side, and with incredible rapidity the flames spread to the corridors of

the House of Commons, and the Chamber itself began to fill with smoke. The House was sitting at the time and the warning was so short that many of the members succeeded in barely escaping with their lives.

The May-Oatway automatic fire alarm system, which was installed throughout the buildings, promptly sounded the alarm, and within two minutes one of the city motor engines was on the Hill. Many streams of water were soon playing upon the fire which, by that time, had broken through the roof of the reading room. Despite every effort of the firemen, the flames spread with tremendous rapidity and before long the central portion of the buildings was a veritable furnace, while dense clouds of smoke rolled along the corridors and permeated the various offices and members' rooms.

Quite a number were rescued by means of ladders from various parts of the buildings, but unfortunately death claimed some victims. Mr. B. B. Law, M.P., for Yarmouth, N.S., was one of those trapped in the buildings, and his remains were never found. Two ladies, Madame Bray and Madame Morin, guests of the Speaker of the House of Commons and Madame Sévigny, although taken from the buildings one-half hour after the fire started, expired almost immediately through suffocation and shock. Mr. J. B. R. Laplante, Assistant Clerk of the House of Commons, was evidently overcome in his office, as his remains were found in a badly burned condition the following day. Three men were killed by the collapse of one of the ventilating towers, while nobly engaged in endeavouring to stay the progress of the flames. They were Dominion Police Constable Alphonse Desjardins, Alphonse Desjardins, an employee of the Department of Public Works, and Walter Fanning, employed in the Post Office Department. They were directing a stream from one of the standpipes in the buildings, in the corridor near the quarters of the Speaker of the House of Commons, and were buried under tons of debris when the tower fell.

The fire raged fiercely for hours. The main tower was not touched until about 1 p.m., and one of the most pathetic incidents of the night, which moved the spectators, was the striking of the midnight hour by the old tower clock. There seemed almost a human touch as its familiar tones boomed out from the mass of flames. It was not until two o'clock in the morning of the 4th of February, that the fire was got under control, and even then the Library was subsequently threatened and was saved only by strenuous efforts. If it had not been for the fire-door which closed off the corridor leading to it from the reading room, it would also undoubtedly have fallen a prey to the flames.

A Royal Commission was issued on the 7th February, 1916, appointing Mr. R. A. Pringle, K.C., and His Honour D. B. MacTavish, county judge, as commissioners to conduct a thorough inquiry into the origin of the fire. A number of special sittings were held in the Ottawa city hall, at which many witnesses were examined. The commissioners found during the course of their investigation that every precaution had been taken to guard against fire and that the buildings had been adequately supplied with fire-fighting appliances, such as reels, hose, chemical fire extinguishers, an efficient automatic fire alarm system and ample hydrants to cover the fire area. They also found that there were the usual number of Dominion police on duty and that guards were stationed at all corridors, the Speaker's door, the visitors' gallery and the ladies' gallery.

In spite of the most searching inquiry, the origin of the fire still remains a mystery. The commissioners finding after carefully reviewing the evidence was as follows:—

> "Your commissioners are of the opinion that there are many circumstances connected with this fire that lead to a strong suspicion of incendiarism, especially in view of the fact that the evidence is clear that no one was smoking in the reading room for some time previous to the outbreak of the fire; and also to the fact that the fire could not have occurred from defective electric wiring. But while your commissioners are of such opinion, there is nothing in the evidence to justify your Commissioners in finding that the fire was maliciously set."

Upon the Department of Public Works fell the duty of temporarily housing the Parliament of Canada, and it acquitted itself magnificently of the task. While the fire was still raging at its height, the Minister and Deputy Minister of Public Works, after considering the various buildings in Ottawa—including the unfinished Customs building, the theatres, public halls, etc., visited the Victoria Memorial Museum building shortly after 11 p.m., with a view to deciding as to the suitability of that building for the temporary home of Parliament. Its layout made it probably the most adaptable building in the city for the purpose; and subsequent announcement was made by the Prime Minister, about midnight, that the House of Commons (the Senate being adjourned), would meet in the auditorium of the Museum building at the usual hour of 3 o'clock, Thursday afternoon. Temporary arrangements were made the following morning for the afternoon meeting; the Throne chair from the Senate Chamber and the Senate Mace, which had fortunately been salvaged the night before, being utilized to carry on. There was only a short session; the House adjourning at 3.40 p.m., whereupon the Department of Public Works undertook, with its own staff, to remove the Geological Survey from the building, store their specimens and, in addition, the paintings of the National Art gallery, and to get the building in shape for use as the Parliament buildings by Monday afternoon at 3 o'clock.

The ground and first floors of the building were filled with large cases containing exhibits; the second and top floors being used as offices and by the National gallery. The task to be undertaken was to take down and remove all these cases, pack and store the exhibits together with the pictures of the National gallery, secure other accommodation and remove the Geological Survey staff from their offices in the Museum building to the new quarters; partition off the large areas on the ground and first floors into as many offices as possible for the accommodation of the members and officials of Parliament. It was decided to fit up the auditorium of the Museum building as the Commons Chamber and the southwest wing for the Senate. The latter Chamber had to be entirely created, and was reproduced in the familiar Senate red with striking effect.

A contract plan of the original building was secured and the layout of offices prepared thereon. Beaver-board and fibre-board, on two-by-four studding, were chosen as the most expeditious method of partitioning the offices. The moving out of the exhibits and the partitioning of the offices proceeded at one and the same time; a staff of carpenters, electricians, wiremen and labourers being employed in eight-

hour shifts during Saturday and Sunday. The post office fittings in the old Parliament buildings, which had been salvaged with slight damage, were brought down and installed in the entrance lobby where also provision was made for the two telegraph companies. By Sunday afternoon, it was discernable that the back of the undertaking had been broken and that the accommodation would be ready by mid-day Monday. The furniture in the offices of the old buildings had been, for the most part, destroyed. However, there were sufficient chairs salvaged from the restaurant and from different parts of the buildings, to seat the Commons and Senate Chambers. The furniture for the new offices was ordered the day following the fire by telegram and came by express from the manufacturers and off the floors of warehouses in the large distributing centres; most of it arriving on Sunday.

When the House of Commons assembled Monday afternoon in the Royal Victoria Memorial Museum building, there had certainly been a lightning transformation; almost every vestige of its previous use having disappeared. New Beaver-board offices had been erected throughout the ground and first floors; all the offices had been equipped with rugs, desks, chairs, filing cabinets and even to a metal wardrobe for each member of Parliament in the various cloak rooms; there was a telephone in each room in working order; call bells and division bells had been installed, the latter so like in sound that when they rang at three o'clock Monday afternoon the effect was almost an exact reproduction of the division bells of the old buildings, the debris of which was still smouldering on the hill.

At noon on Monday, His Royal Highness the Duke of Connaught, Governor General, having heard of the extraordinary efforts which were being put forth, visited the building, and, after a thorough inspection, expressed himself as amazed with the work which had been done and heartily complimented the Minister and Deputy Minister of Public Works on the feat which had been accomplished.

The next consideration was the reconstruction of the burned buildings. The Government decided to place the direction of this great undertaking in the hands of a joint committee of Members and Senators to be nominated by the Right Honourable the Prime Minister and the Right Honourable the Leader of the Opposition. As a result, the following were chosen:—

Honourable	Robert Rogers, Chairman,	Honourable	William Pugsley,
"	J. D. Hazen,	"	Rodolphe Lemieux,
"	J. D. Reid,	"	Charles Murphy and
"	P. E. Blondin,	"	Robert Watson.
Sir	James Lougheed,		

Honourable Mr. Lemieux and Honourable Mr. Murphy have since resigned. Mr. John A. Pearson, of Messrs. Darling and Pearson, architects, Toronto, Ont., and Mr. J. O. Marchand, of Montreal, Que., were appointed architects, and sketch plans prepared by these gentlemen were explained to Members of the House of Commons and of the Senate, submitted to the joint committee, and met with their approval. The committee also had before it sketch plans prepared by Mr. David Ewart, Dominion Consulting Architect, and by Mr. E. L. Horwood, Chief Architect of the Department of Public Works, both suggesting alternative schemes for rebuilding. After careful consideration, the joint committee decided to proceed with the reconstruction of the

buildings on the force account basis, and the P. Lyall & Sons Construction Company, Limited, was engaged to carry out the work.

GEORGIAN BAY CANAL COMMISSION.

Attention is directed to the interim report of the Georgian Bay Canal Commission, which was placed before Parliament at its last session and subsequently published as Sessional Paper No. 19B. As the work of the commission, as a whole, was necessarily interrupted by the war, one of its members, Col. Frank S. Meighen proceeding overseas on active military service, it was arranged that the Chairman, Mr. W. Sanford Evans, should make a statistical survey of the principal facts and conditions connected with the transportation problems to be investigated by the commission with a view to determining the commercial feasibility of a deep waterway from the Georgian bay to the harbour of Montreal, via the French and Ottawa rivers. The task involved excessive research, as conditions bearing on a problem of this nature had not previously been studied in Canada and were not contained in any of the existing publications. Many of the tables of statistics given in the appendices of the report have therefore been compiled direct from original matter. The inclusion of many splendidly prepared illustrative diagrams has added materially to the value of the report as they enable the casual reader to grasp much more readily and clearly the import of the statements made. Mr. Evans has presented an admirable analysis of the general conditions attaching to the traffic which passes east and west through the St. Lawrence and Great Lakes water route. No attempt is made to draw conclusions at this stage of the investigation, but merely to submit a general statement of the facts so far examined for the information of the public and as a basis for discussion and constructive criticism. The report is a most valuable contribution to the study of the general traffic problem of Canada and will well repay perusal.

TELEGRAPHS.

The Government Telegraph Service now comprises a total mileage of 11,792¼, with a total of 1,002 offices, 370 of which are telegraph offices, 589 telephone offices, and 43 joint telegraph and telephone offices. The increase in land-line mileage during the past year was 314 miles and consisted of extensions to Ile La Crosse, Sask., Hudson's Hope, B.C., and some short lines in southern British Columbia. A total of 365,081 messages were sent, a decrease of 12,768 from the preceding year. The falling off was mainly in connection with the Yukon line. Since the Grand Trunk Pacific Railway telegraph reached Prince Rupert, it has diverted a good deal of the traffic in that district. A war news service has been inaugurated and free bulletins are now sent to all offices in Saskatchewan, Alberta, southern British Columbia and the North Shore and Chicoutimi district. The press rate for the Yukon has also been reduced from one cent to one-half cent per word during the period of the war.

I desire, in conclusion, to express my appreciation of the valuable services rendered by the staff during the year, and to specially commend those whose nobility of spirit moved them to respond promptly to their country's call and who are now overseas manfully doing their "bit" in the cause of liberty and the preservation of civilized standards throughout the world.

I have the honour to be, sir,

Your obedient servant,

J. B. HUNTER,

Deputy Minister.

REPORT

ON

PUBLIC BUILDINGS THROUGHOUT THE DOMINION

FOR THE FISCAL YEAR ENDED MARCH 31, 1916

BY THE

CHIEF ARCHITECT

PUBLIC WORKS, CANADA,
CHIEF ARCHITECT'S OFFICE,
OTTAWA, July 30, 1916.

R. C. DESROCHERS, Secretary,
Department of Public Works.

SIR,—I am sending you herewith annual report of works executed under this branch during the fiscal year ended March 31, 1916.

E. L. HORWOOD,
Chief Architect.

PROVINCE OF NOVA SCOTIA.

AMHERST.

PUBLIC BUILDING.

The stonework was pointed up to the ground floor base course.

Removed old tubular boiler and installed new one, bricked in complete.

Repaired and painted entrance doors to post office. New birch sills and risers were supplied, also iron thresholds to front door of post office.

Repaired electric bells; installed new dry batteries. Repaired the electric circuit, and installed one switch in bath-room and pantry.

Installed additional lights over stamp wicket.

The first floor (Customs office) and the Janitor's apartments were thoroughly cleaned and painted.

ANNAPOLIS.

PUBLIC BUILDING.

Repaired stone entrance steps at front doors.

Installed four iron standard lamp posts on street with lights and globes complete at each front of building.

ANTIGONISH.

PUBLIC BUILDING.

Painted fences enclosing yard at rear of building, and repaired heating furnaces and plumbing work.

BRIDGEWATER.

PUBLIC BUILDING.

Two standard five cluster lamp posts, with globes and lights complete, were erected in front of this building, and pointed granite facing of basement walls and steps.

OANSO.

PUBLIC BUILDING.

Opened and cleaned drain under basement floor.

Graded the space between sidewalk and building with earth and gravel.

Installed combination closet; repaired plumbing, water tank, outside pipes, furnaces and pump in basement.

Placed outside porch to mail entrance door and attended to minor repairs.

DARTMOUTH.

NEW PUBLIC BUILDING.

The construction of this building described in the report of 1915, is completed.

A contract was awarded 14th August, 1915, for the making, erecting and finishing of interior post office fittings.

Contractor.—The Office Specialty Manufacturing Co., Limited, Newmarket, Ont.

Post office boxes, drawers, brass plates, grilles and receivers were supplied.

A new tower clock movement and bell with all necessary atachments was installed in tower, clock dials put in, weight box and machinery stand, walls lined with spruce sheathing; built case over clock weights and painted same complete.

DIGBY.

PUBLIC BUILDING.

Erected on sidewalk in front of building, two five-cluster iron standard lamp posts with globes and lights.

Repaired broken glass; new hinges were supplied on skylight. The large vault doors received attention, easing bolts and cams.

The letter box front in post office received attention, and other smaller repairs were made from time to time.

GLACE BAY.

PUBLIC BUILDING.

The heating apparatus was overhauled, grate bars, smoke pipes and leaks in boilers repaired and lock shield air valves put on public lobby radiators.

The ceiling over boilers was made fireproof.

GUYSBORO.

PUBLIC BUILDING.

New plank floor was placed in wood cellar.

Laid concrete pavement in front of post office and custom office, and re-gravelled the ground from concrete to line of street.

Opened drain from rear wall of building to the seashore, and cleaned out and recovered same.

Put new latch lock on main entrance door.

Repairs to interior plumbing and other smaller works attended to from time to time through building.

HALIFAX.

CUSTOM HOUSE.

Replaced broken glass in windows; repaired electric bell, door checks and locks, and provided record case, as per plan.

Provided furnace room with firing tools for cleaning out furnaces. Removed parts of smoke and vent pipes in chimney and replaced same with new ones.

Laid new tar and gravel roof over customs long room.

Raked out joints of stone coping on parapet walls and grouted and pointed same, also cut out joints of stonework on the east and south fronts off from granite plinth to top of walls, and painted flagpole.

Removed old plaster from the ceiling of the Harbour Master's office, also from three walls in the caretaker's apartments, replastered same and repaired plaster in other offices. All the ceilings throughout the building were cleaned and whitened, and all the walls were painted two coats to top floor, inclusive.

Provided new case for Landing Officer's office, as per sketch.

All other small repairs were attended to from time to time as required.

Four No. 34-C Sirdar round hot water furnaces were connected to headers and valved between boilers and headers, and a new main was provided to the northeast rooms.

POST OFFICE BUILDING.

Repaired defective chimney flue by making good the brick work to prevent smoke coming through; put railing in Post Office Inspector's main working room to prevent the public from going into room; erected new hard pine flag pole; repaired plumbing throughout building; installed new folding iron door to freight elevator in basement; repaired woodwork of cupola and painted same two coats; took up and cleaned out drains in basement; cemented stone walls at approach to freight elevator, and other smaller repairs were attended to as required.

DETENTION OR TRACOMA HOSPITAL.

Fitting up porch adjustable with floor and roof; repaired electric bells; repaired hot water boilers.

The cement plaster has all been removed from the freize or the hanging projection at the roof of the verandahs and replaced with wood, painted and sanded. The cement mouldings at the floors have also been repaired.

INVERNESS.

PUBLIC BUILDING.

Repaired outlet of sewer; repaired and stopped leaks in roof; painted the woodwork, whitened the ceilings, and kalsomined walls, and painted all the exterior woodwork.

Repaired plumbing throughout building, and all smaller matters were attended to.

KENTVILLE.

PUBLIC BUILDING.

Took up old hardwood, patched and renailed bottom floor and laid in lobby and vestibules of post office a pyrofugont floor; repaired doors, new thresholds; repaired letter boxes, and smaller repairs were attended to.

LIVERPOOL.

PUBLIC BUILDING.

Put handrail on outside stone entrance steps; repaired outside doors; supplied new door checks, and attended to inside plumbing.

Three five-cluster iron lamp posts were erected at the two fronts of the building.

Painted and grained outside doors.

LUNENBURG.

PUBLIC BUILDING.

Installed two hot water Daisy boilers.

Provided iron thresholds, and repaired hardwood floor in vestibule; new galvanized iron gutters to clock tower, and refilled panels of fence with 12 gauge galvanized wire.

Erected a new hard pine flagpole on the roof; made good all plumbing; repaired door and window sashes; put down new panels of concrete in sidewalk, and drains were put down to connect with the town's new sewer.

Two five-cluster iron lamp posts were erected on the street front of this building.

The pipe coil at ceiling, in the shipping master's office in the basement, was lowered and main supplying same altered to increase the efficiency of the coil.

NEW GLASGOW.

PUBLIC BUILDING.

Took up old hardwood, patched and renailed bottom floor, and laid down a pyrofugont floor in the post office lobby and vestibule; put down new plank platform in rear of customs examining warehouse; put new letter box on inside of post office door; covered roof of small out-building for storage; pointed stone work; painted metal roof covering, and all other outside metal and woodwork; repaired sashes and put in glass; installed new section of boxes in letter screen; put new door in partition between vestibule and post office lobby; also new steps in vestibule. Attended to all other repairs as required.

NORTH SYDNEY.

PUBLIC BUILDING.

Repaired door frames; provided grate bars and firing tools for the furnaces; repaired and painted fence; repaired roof to stop leaks; put up new sections of copper gutter; repaired conductors, and put new sections of iron at the bottom of them.

Removed old, and renailed under floor, laid a pyrofugont floor in post office lobby. Put treads on entrance steps leading to post office, iron bands and stays were furnished to flagpole, and repaired electric lighting.

Additional radiators provided in first floor offices connected to a new two-inch main valved on flow and return at boiler.

The radiator in registered mail office has been readjusted.

PARRSBORO.

PUBLIC BUILDING.

Built new stand under tower clock; sodded plot in front of building and encased same with a wire fence; built plank walks to protect roof; placed wooden base to set storm signal on; erected a shed on roof to store storm drum and cone; a galvanized iron storm signalling tower was erected on the roof of this building and wired tower by connecting with wiring in clock tower to light signal lamps.

PICTOU.

CUSTOM HOUSE.

Repaired doors and locks; rearranged plumbing to cut off the large water tank in attic and take water direct from the town pressure. Gravelled and renewed walks, and trimmed the ornamental trees of this property.

Two new No. 6 Daisy round hot-water heating furnaces connected to existing mains were installed.

POST OFFICE.

Repaired broken plaster; erected new fence in rear of building and painted same; painted woodwork of first and second floors; whitened ceilings and kalsomined walls; repaired outlet of sewer; an addition has been added to the letter box screen in this office and letter boxes were repaired.

SPRINGHILL.

PUBLIC BUILDING.

Painted customs offices; whitened ceilings; put on new latch locks; painted caretaker's quarters, and whitened ceilings. Patched hardwood floor in post office lobby, and attended to other smaller repairs as required.

SYDNEY.

PUBLIC BUILDING.

Repaired doors and door frames; provided 200 stoppers for letter boxes in screen in post office; removed the tile flooring from post office lobby and laid down a pyrofugont floor; installed switch to electric lights in post office lobby and attended to all other necessary repairs.

Alterations made to hot water heating apparatus, consisting of changing of basement mains, the installation of two Gurney square boilers (935 series); five radiators were connected on ground floor and changed the size and position of radiators in caretaker's quarters on second floor.

POINT EDWARD HOSPITAL.

Removed old wooden posts and sills from two of the buildings and built concrete foundations; removed some of the joist and portions of the floors; replaced same with new wood; also graded the grounds about these buildings.

TRURO.

PUBLIC BUILDING.

Provided and erected in front of this building two five-cluster iron lamp posts with shades and lights complete.

WESTVILLE.

PUBLIC BUILDING.

Repaired electric lights; put new door to side entrance, and repaired all outside doors; repaired door checks; replaced broken glass; repaired inside plumbing; installed switch to electric lights in post office lobby, and painted all exterior woodwork.

WINDSOR.

PUBLIC BUILDING.

Repaired leaks in roof; replaced broken glass in letter screen in post office; re-dressed granite entrance steps; new copper gutters were installed, and conductors repaired; plate glass panels put in outside doors; put new flashings in roof of customs; brass hand rails were placed over steps to letter receiver; new planking to bridges or culverts over street gutters, and other smaller repairs attended to.

WOLFVILLE.

PUBLIC BUILDING.

Check was placed on front door to post office; put crock on chimney; picture moulding on wall in postmaster's office, and other small repairs were attended to as required.

YARMOUTH.

PUBLIC BUILDING.

Sections of hot water boiler repacked; repaired ceiling in basement over furnaces; put in plate glass windows and sills in examining warehouse; repaired floor, drawers, counter, etc., in customs long room; repaired ceiling of post office lobby, and attended to other smaller requirements.

(Unless otherwise stated in the report, all works of repair and improvement on public buildings in the Province of Nova Scotia were executed under the supervision of Mr. W. Bishop, Inspector of Dominion Buildings for Nova Scotia.)

PROVINCE OF PRINCE EDWARD ISLAND.

CHARLOTTETOWN.

OLD BANK BUILDING.

The joists of the appraiser's office in the examining warehouse were reinforced and floor repaired.

In the spring, the awnings were put on the building and removed in the fall.

Repairs made to the interior brick walls of basement, and two fireplaces were relined with mortar and fire-brick.

Supplied sheet lead to repair the hip roll on roof. Three meters removed, one 20-ampere meter and three cut-outs were installed; two electric lights in the engineer's offices changed and rewired, and repaired electric wiring in appraiser's office.

Position of one radiator in the engineer's office altered, a set of fire irons and a coal scoop supplied for furnace; sundry repairs made to the heating and plumbing, and a new expansion tank was placed in position and connected up.

PUBLIC BUILDING.

The concrete sidewalk at the north entrance was raised up and coal ashes placed at each side of same.

One wind shield furnished for the office of the post office inspector; new halyard for flag pole supplied; shelving re-arranged; windows repaired, and book shelf provided. All work painted or varnished in the gas testing office.

In the east end of the public lobby of post office, a new stamp vendor's office was constructed.

The gas heater was moved and set up complete; the registered letter office in the post office was remodelled, enlarged and a ceiling placed over same; a new ash counter was furnished and other minor work done in connection with above alterations. All the above was painted, varnished, etc., and left complete.

The walls of the gas inspector's office were tinted with alabastine, the ceilings whitened, the woodwork painted and varnished and floor painted. The metal work was treated with aluminum and gold bronze.

All street letter boxes and parcel receptacles were painted.

Moved the gas prover; the gas testing apparatus was remodelled and sundry repairs made to plumbing work in gas inspector's office.

In the post office lavatory, a new urinal was supplied and installed.

Tested the heating boilers, supplied rubber for two mud doors, furnished bar iron, grate bars and arch plates, cleaned back connection and smoke stack, repaired grates, fire hose and dressing slice bar.

The fire-brick lining in both boilers was rebuilt, and two new arch plates were placed in position.

On post at main entrance, a 250 c.p. lamp was supplied.

After the stamp vendor's and registered letter offices were remodelled, it was necessary to re-wire for electric light, and minor changes made to the electric wiring in the gas inspector's office.

Two extra electric lights installed in the post office; sundry electric wiring and the electric door bell system throughout the whole building was repaired, and the combination in the vault door of the post office was repaired and changed.

GEORGETOWN.

PUBLIC BUILDING.

The sewer connection became clogged, several sections of the porcelain pipe and the cast iron soil pipe were removed and the obstruction cleared out of the pipes; the pipes were replaced with new material and a new cleanout placed on same.

A new plank box was built and fixed at the outlet of the sewer.

Minor repairs made to the heating.

SOURIS.

PUBLIC BUILDING.

Supplied one pine door in the rear entrance of post office; closed up the opening between the examining warehouse and the rural mail men's sorting office.

Constructed a new ash box of studs and boards; furnished two extra heavy door checks and placed them in position.

Minor repairs made to door locks and out-buildings; repaired the brickwork of gas producing house on the grounds, and minor repairs were made to pump and to the gas lights.

SUMMERSIDE.

PUBLIC BUILDING.

Two new glazed sashes were placed in the storm porches to the main entrance and the porches painted.

Temporary staging to tower was erected and machinery of clock hoisted; four louvre windows were placed in position; waterproof floor constructed below the dial room; a beam was placed in position to support the bell and all minor carpentry work in connection with installing the clock was done; clock dials placed in position and glazed, and the dial room was prepared in conduit and wired for electric light.

A turret clock of English manufacture supplied and placed in position complete, and is in good working order.

Minor repairs and a new smoke pipe put up on the furnace.

All street letter boxes were painted.

TIGNISH.

PUBLIC BUILDING.

Two new storm porches having windows and doors, were constructed, glazed and painted complete. Minor repairs to doors, door checks or springs supplied and placed in position; panes of glass supplied and glazing done.

A small radiator in the customs office removed and one large radiator 24 by 26 by 90 feet, with all necessary pipes, valves, etc., complete, placed in its stead.

One golden oak sanitary W.C. seat with nickle-plated post hinges, etc., supplied and a new closet tank placed in position.

Sundry repairs were made to the pump power head, and to the gasoline engine in basement. Materials supplied for the recharging of the storage battery, and minor repairs in connection therewith and left same in good working order.

The electric wiring in basement changed and two new lights installed, and repairs were made to magneto.

Unless otherwise stated in the report, all works of repair and improvement on public buildings in the Province of Prince Edward Island were executed under the supervision of Mr. J. J. McDuff, Superintendent of Public Buildings, Prince Edward Island.—Charlottetown, P.E.I.)

PROVINCE OF NEW BRUNSWICK.

BATHURST.

PUBLIC BUILDING.

The building had attention during the year as usual, in way of sundry small repairs to front doors, windows and roof; kalsomining, painting and varnishing was done to the interior; the plaster ceiling of upper hall was renewed; repairs made to heating system and furnaces; some plumbing repairs, glazing and lobby floors dressed; window blinds supplied; glass for clock dials cut and fitted. Alterations to post office screen were made and additional fittings installed.

CAMPBELLTON.

PUBLIC BUILDING.

During the fiscal year, the builing had general supervision. An iron stair hand rail fire-escape was placed on it; sundry repairs made to tower clock, new escapement wheel put in, wire, blocks, etc., supplied; the clock tower was wired for lighting and illumination of clock; post office sorting table was repaired; kalsomining and painting done to some halls and rooms. An inner partition was removed to give customs warehouse access into post office delivery and a warehouse for the customs was constructed in the basement with outer stairs and porch to the same.

CHATHAM.

PUBLIC BUILDING.

This building has not had much done to it lately on account of anticipated extension, and repairs are needed. In front of lot lately acquired (adjoining the building), a concrete retaining wall was constructed and a concrete sidewalk laid connecting with the old sidewalk.

DALHOUSIE.

PUBLIC BUILDING.

During this fiscal year, the building has had supervision. Kalsomining and painting done to the interior walls and ceilings of vestibules and hallway from street door to top floor, outside woodwork, doors and sashes, lobby screen and heating coils, etc., painted; hardwood work cleaned and varnished; fences renewed and painted, and chimney was repaired and an iron band was put around it.

The vestibule floor was also repaired.

FAIRVILLE.

PUBLIC BUILDING.

The building had supervision, and is in good condition. Interior upper floor, papering, kalsomining and painting was done and an oak mantel installed. On post office floor, painting and kalsomining was done; tower clock had attention; new lock put on post office screen door, and repairs made to electric lights.

FREDERICTON.

OLD PUBLIC BUILDING.

The old public building has been vacated by the Post Office Department and alterations are now under way on the ground floor to accommodate the Customs Department. Improvements are also under way on first floor to accommodate a branch of the Department of Agriculture. The Dominion Immigration office had been moved into the first floor, and shortly after it was removed to the new public building. The Customs Department will vacate the first floor office for the ground floor as soon as the alterations and fittings, that are now underway, are complete. The old post office boxes were removed and stored in basement of building. A few minor repairs were made.

NEW PUBLIC BUILDING.

Broad concrete walks were laid in front and a concrete walk on each side; a small concrete retaining wall was built between the lot and the militia property adjoining; the glazed sashes were removed from the windows in clock tower bell room and replaced with louvres. The letter receiver was improved, the opening in the stone enlarged; improvements made to post office fittings, and extension ladder provided for hatchway. Some electric switches replaced with Diamond H lock switches, and electric bells installed for post office use. A circular counter removed from the old building and set up in office of Immigration Agent, on the first floor.

GRAND FALLS.

PUBLIC BUILDING.

The building was well kept. A hinged grating was placed on one of the basement windows, and sanitary matters had attention.

HAMPTON.

PUBLIC BUILDING.

The building had general supervision during the year. Water pipes were laid from Canadian Government Railway water system to supply the building, all connections complete. An acetylene gas plant was installed with fixtures in building, brick gas house, street lamp and globes. The post office delivery tile floor had to be relaid and a large portion in lobby. The street letter receiver was completed. Concrete walks were laid and coping and culvert constructed at building and along lot on street lines; grading, terracing, fencing and sodding of lot completed. New bag rack installed. The location of the flagpole was changed and flagpole reset in cement; catch basin lowered, and tower clock had attention and batteries supplied for same.

HARTLAND.

PUBLIC BUILDING.

Small repairs were made to plumbing and one closet bowl renewed; a spring lock was put on the post office screen door, and some minor repairs made.

HILLSBOROUGH.

PUBLIC BUILDING.

Papering and painting were done in the interior and repairs made to hot air pumping engine; later a new engine was installed.

MARYSVILLE.

PUBLIC BUILDING.

The building had supervision during the year and is in good condition. This year little was required; some kalsomining, painting and papering was done. Small repairs to glazing, woodwork, locks, letter boxes and office clock, etc., small repairs to electric lighting; the surface of the yard was improved, levelled and smoothed.

MILLTOWN.

PUBLIC BUILDING.

This building, described in last year's report, is completed.

The post office fittings were installed. Concrete sidewalks laid around the building on front and side streets and to the rear entrance, and a concrete retaining wall constructed at side and rear of lot. Small improvements were made to doors and glazing; a safe was received and placed in post office, and tower clock was installed and chase for weights constructed.

MONCTON.

PUBLIC BUILDING.

The building had general supervision during the year. An iron stair and rail fire escape was erected on building. Plaster was repaired and kalsomining done. Alterations and additions were made to post office fittings and improvements in the post office electric lighting. An additional steam radiator was installed and a portion of the flooring was renewed. Improvements were made to toilet room on first floor and an additional door and closet supplied.

NEWCASTLE.

PUBLIC BUILDING.

The building had general supervision during the year and some repairs made. Kalsomining, painting and varnishing in the interior of ground floor and upper floors. New flooring laid in lobby and vestibule, with thresholds, etc., and main stair treads renewed.

RICHIBUCTO.

PUBLIC BUILDING.

The building had general supervision during the year. Five Laddin lamps were supplied; new front doors painted, glazed and hung in place; kalsomining, painting and glazing done in interior; fence and fire escape painted; repairs made to furnace, grates installed, and boiler and hot air pump repaired.

ST. JOHN.

CUSTOM HOUSE.

The building had general supervision during the year. It was found that the water pipes over the building had become corroded to a great extent and there was necessity for renewing them, this was done, making a satisfactory improvement in

the water supply and use. New wash basin was put in Marine and Fisheries office and sundry small plumbing repairs made. Window shades supplied office of steamboat inspector. The heating furnaces of the building were relined and boilers repaired; new casting and the heating apparatus put in thorough order; the hot water boiler in Signal Officer's apartments repaired; some plastering and painting done in Gas Inspector's office; Marine and Fisheries wall repaired and painted and north wing from basement to top cleaned, kalsomined and painted. A steel flag mast with appurtenances complete was installed on Custom House dome in place of wooden one wrecked in storm. Sundry glazing, some large plates being renewed in different parts of building. Repairs were made to hydraulic hoist; the electric elevator supplied with requisites and kept in good order; sundry repairs made to woodwork; locks and keys had attention. For some time complaints had been made of the poor lighting of the building and this year plans and specification for electric wiring of the entire building were prepared and contract entered into and the work carried out, and portable electric lamps have since been supplied sundry offices.

OLD POST OFFICE.

During the year, the building had usual supervision. Repairs to glazing, woodwork, plumbing, W.C.'s, etc; sundry repairs to furniture and revolving door; tower clock, lobby clock and others had attention; repairs made to plaster ceiling on main floor; steam boiler repaired, also gauge glasses, latch locks and washers supplied; electric lamps were furnished and sundry small repairs to lights and appurtenances. The enclosures of basement windows at sidewalks were improved and water pipe from eaves extended under sidewalk to gutter. Repairs made to letter box and locks, speaking tubes, lights and stamping machine; small woodwork repairs about building and in elevator casing. A number of R.M.S. trucks were repaired, painted and varnished.

This building has now been vacated as a post office, the post office removing to the new building. The old one being put in condition to receive officials of other departments who have been in outside rented offices. The staff, furniture, etc., of District Engineer of this department at Fredericton, N.B., have already been removed to and installed in this building.

NEW POST OFFICE.

A large and modern building of granite and freestone front, brick and stone sides and rear walls, four stories and basement, has just been completed.

The staffs of the Post Office Inspector for N.B., and Supt. of Railway Mail Service here, were transferred from the old building to the new and are now carrying on the work of their respective branches. At the end of the fiscal year, everything was in readiness awaiting the transfer of the post office staff, furniture, appliances, etc., from the old post office, for which arrangements were in hand.

There were of necessity a number of small matters to be adjusted, which are receiving prompt and careful attention. The coal had been stored in the building; the hinged cover of the ash hoist was improved and small improvements made to freight elevator. The bunks in the Customs postal parcels room were rearranged as instructed. Supplies bought for the caretaker, engineers and elevator men, including thirty-five feet of hose and fittings, ash barrels, tools, oils, packing and sundry articles and necessaries. Vault fittings were installed, bag racks and cases received and set up . A desk and chair supplied Supt. of R.M.S.; shelving and coat hooks for post office Inspector and Supt. of R.M.S., electric wiring and appurtences for letter stamping machine; the inspection galleries improved; repairs made to the furniture removed from old office. Blinds supplied and fitted to the windows. A number of other small matters now in hand.

A partition and a wall radiator was placed in the office of the Railway Mail Service to form an office for the stenographer.

SAVINGS BANK.

The water closet was installed in basement; painting was done in offices and window sashes around the building, and repairs were made to coal chutes and gate.

PARTRIDGE ISLAND—QUARANTINE STATION.

Portions of roofs of three buildings were repaired with new shingles; improvements were made to heating apparatus and location of one radiator changed in asst. doctor's house; heating boiler in hospital repaired and new header installed. A small fire occurred in the small-pox hospital and damaged the walls and roof, this was repaired at small expense.

ST. JOHN—WEST.

POST OFFICE.

Kalsomining, painting and varnishing was done in interior of building and fence of lot was coated with fireproof paint. Tower clock had attention during the year; some small repairs made to plumbing and flagpole was repaired and painted.

IMMIGRATION BUILDING.

The old building is a two story wooden structure, and No. 4 shed, a two story wooden building of which the upper story only is in possession of the department for government purposes. These buildings have been occupied to a great extent by soldiers, and the Militia Department has had more or less charge of them.

Repairs were made to plaster of walls; three new door sills were put in place and floors repaired; water table and sills, front doors, locks and bolts and sheathing on ceiling repaired; floor raised and levelled in furnace room; partitions upstairs repaired and truss rod and new door sill put in coal room.

Kalsomining and painting done upstairs and down. The interior of No. 4 shed painted and reglazed; repairs were made to plumbing and main steam pipe in connection with shed; repairs made to boilers and new set of grate bars put in furnace; smoke stack and heating apparatus repaired; smoke stack top of chimney had iron band put around it and guys renewed; coal platform was built in boiler room; fire tools supplied firemen also sundry plumbing requisites; electric wiring repaired and lamps supplied, and woodwork, doors and locks were repaired and renewed.

ST. STEPHEN.

PUBLIC BUILDING.

The floors of lobby and vestibule were relaid and concrete basement floor repaired; chimney and roof repaired, and pent house was built over roof hatchway.

SUSSEX.

PUBLIC BUILDING.

The building is in good condition, and during the year had general supervision. A bath tub was installed in caretaker's flat. Hall and rooms alabastined and portions painted; lamp posts painted; repairs made to water pipes; post office sorting table recovered. Concrete platform and driveways laid in front of building and two lamp posts with clusters of electric lamps erected in front. Caretaker's apartments wired for electric lighting; window blinds supplied; additional partitions made in pigeon-hole cases; new flag mast erected; sill tap and hose installed; additional drawer provided in counter, and tower clock had attention, batteries were supplied, etc.

TRACADIE.

LAZARETTO.

There is a resident physician's house across the road, and, during the year, a barn and stable was built near the house; the water piping was laid from the house to the barn, artesian well deepened and some grading done; hose and harness hooks and sundry small appurtenances supplied; iron slabs placed over drains in floor of barn; grain and feed chutes improved and posts put up to hold doors when open. Renewal of plumbing of Lazaretto was in hand at end of fiscal year.

(Unless otherwise stated in the report, all works of repair and improvement on public buildings in the Province of New Brunswick were executed under the supervision of Mr. D. H. Waterbury, Superintendent of Public Buildings, New Brunswick —St. John, N.B.)

PROVINCE OF QUEBEC.

ARTHABASKA.

PUBLIC BUILDING.

Electric light installation was placed in the four clock dials in the tower of this building. A lettered tablet stone was fixed in the front wall. Concrete approaches to the main entrance and to the drop letter boxes were built and all areas on the front side of the building were levelled and sodded.

BERTHIERVILLE.

PUBLIC BUILDING.

The porch to the private entrance of this building and the galleries and steps to the post office part were modified to suit the requirements.

BUCKINGHAM.

PUBLIC BUILDING.

Repaired north and west sides of concrete along side of building to prevent water from going into the basement.

Put a roof on temporary woodshed, and a hardwood floor was laid in caretaker's dining room.

CHICOUTIMI.

PUBLIC BUILDING.

A concrete retaining and protection wall has been built on the north side of the Government property. In connection therewith an embankment of 140 feet in length had to be made, sewer had to be removed and replaced. The land in front of the building, which had been damaged during the town improvements, was repaired and new sodding placed.

The roof of the public building, which consisted of paper and gravel, has been replaced by a metallic covering.

COATICOOK.

PUBLIC BUILDING.

The plumbing on the first floor was improved. The caretaker's quarters were cleaned, repapered, painted and varnished as the case required. Repairs were also made to the several roofs.

COATICOOK.

DRILL HALL.

The construction of this building, described in last year's report, is completed. Metal saddle racks have been supplied for the interior equipment.

COOKSHIRE.

PUBLIC BUILDING.

An iron balcony fire escape and ladder was installed on the rear of this building. The whole of the exterior openings, fences, etc., were painted. The interior was either kalsomined, painted or revarnished as required. The electric light installation was repaired.

DRUMMONDVILLE.

PUBLIC BUILDING.

The position of the box screen in the post office part of the building was altered so that the space reserved for the public was enlarged. A long room for customs purposes was provided on the first floor.

A contract was entered into 20th December, 1915, for the supply and installation of customs fittings. Contractors: J. T. Sebell Co., Alexandria, Ont.

EAST ANGUS.

PUBLIC BUILDING.

The construction of this building described in last year's report is completed.

A contract was entered into on 27th July, 1915, for the supply and installation of interior post office fittings. Contractors: Berlin Interior Hardwood Co., Berlin, Ont.

Brass grilles and post office box front equipment supplied.

The grounds were filled, graded and seeded down and the driveway gravelled. Concrete sidewalks and steps, including foundation for steel flag pole, was constructed, steel flag pole was supplied to be erected on the lawn at side of building.

Farm tile drain pipe was laid under basement floor. A Gillett & Johnston, English make, four dial tower clock with bell and wiring in conduit for dials and machinery rooms, was installed in the tower.

Additional electric wiring and fixtures were provided.

FARNHAM.

PUBLIC BUILDING.

It was necessary to renew all roof gutters and rain conductors; the roof was repaired; the shed to the rear of the building was covered with galvanized iron; the exterior woodwork repainted, and the interior of the post office and fittings were altered so as to accommodate the rural mail delivery service.

EXPERIMENTAL FARM.

The pair of semi-detached cottages described in last year's report are completed.

FRASERVILLE.

PUBLIC BUILDING.

The caretaker's quarters were improved and minor alterations were carried out to the interior post office fittings.

GRANBY.

PUBLIC BUILDING.

The plaster ceilings and walls were generally repaired. The caretaker's quarters were cleaned, repapered and revarnished, as the case applied. The drainage of the heating system was improved, and the electric light installation repaired.

HOCHELAGA.

POST OFFICE (BRANCH).

Two tubs were disconnected and reconnected on cement floor, fence repaired, one set of grate bars supplied and fitted up. A filter and 30 gallon boiler were supplied.

JOLIETTE.

PUBLIC BUILDING.

The addition of this building was described in last year's report.

Additional steel girders were installed to carry upper part of clock tower. A door was cut through basement wall between old and new building, another one was cut from caretaker's quarters to roof and a landing was built outside. The position of a few radiators was changed to suit convenience.

Alterations were made to the original part of the building to bring it up to the standard of the work in the new addition. A four dial tower clock with bell was installed and illuminated, under agreement, and at the end of the fiscal year the building was practically completed and arrangements were made to move all Government offices from temporary quarters in rented buildings into the new premises.

A contract was entered into 21st September, 1915, for the supply and installation of interior post office, customs and inland revenue fittings.

Contractors: The J. T. Schell Company, Alexandria, Ont.

JONQUIERES.

PUBLIC BUILDING.

The construction of this building, described in last year's report, is now completed.

A contract was entered into 9th November, 1915, for the making, erection and finishing of interior post office fittings.

Contractor: R. A. Sproule.

Brass grilles and box front equipment were supplied.

L'ASSOMPTION.

PUBLIC BUILDING.

The tar and gravel roofing of this building was renewed and the upper part of the brick and stone chimney was rebuilt. Many other repairs were also attended to.

LEVIS.

PUBLIC BUILDING.

Roof, gutters, down pipes, and flashings were repaired.

Painted exterior and interior wood and ironwork; kalsomined walls and ceilings throughout halls, offices and public lobbies; varnished all hardwood work and floors; papered the caretaker's living room and dining room, and bronzed all coils and radiators.

LONGUEUIL.

PUBLIC BUILDING.

The whole of the exterior woodwork and other painted works, fences, etc., were repainted and minor repairs were done to the plumbing and electric light systems.

LOUISEVILLE.

PUBLIC BUILDING.

One dozen maple trees planted at suitable points on the grounds around the building. The lot was filled, graded and sodded and the driveways gravelled. Concrete curbs were built to the edges of the driveways to keep vehicles off the lawns, and two iron hitching posts set in concrete finish on street in front of building. Laid concrete sidewalk and pavement to frontage of property, and built a steel fire escape gallery and staircase at rear of building.

A dressed and painted board fence was erected on three boundaries of the lot; the clock dials and machinery rooms for electric light were wired in conduits, and installed a four dial (W. F. Evans & Sons, England) tower clock and bell, with all attachments, including weight boxes and enclosures to protect machinery.

MAGOG.

PUBLIC BUILDING.

The tar and gravel roofing was renewed and several other repairs were attended to. An iron balcony fire escape and ladder were installed on the rear of this building, serving the first and attic floors.

MATANE.

PUBLIC BUILDING.

A description of this building appeared in the report of 1914; work is completed.

On the front and the west side, concrete protection was built before placing loose stones; laid concrete sidewalk and pavement; built concrete retaining wall with iron railing; levelled and sodded lot and gravelled roadway; built iron fire escape; erected a painted board fence around the property, with single and driveway gates.

Wired the tower and clock dials for electric light, and installed a John Smith & Son's, English, tower clock and bell, with all necessary accessories.

A hand lift and force pump system was installed in connection with the water service, and one new section and water post supplied to hot water heating furnace and covered with asbestos.

MONTREAL.

NEW CUSTOMS AND EXAMINING WAREHOUSE.

This building, which was fully described in the report of 1913, is completed.

A contract was awarded 5th February, 1916, for the supply and installation of interior customs fittings.

Contractors: Berlin Interior Hardwood Co., Berlin, Ont.

Window blinds were furnished and placed in position.

OLD EXAMINING WAREHOUSE.

Iron roof was repaired, one flushometer supplied, six arc lamps repaired, magneto coil renewed, complete starter rewound, ventilating fan, motor commutator and settle brushes were repaired; old boiler tubes changed for new, boilers rebricked, one belt shifter stop bracket fitted on elevator and taps, W.C. injectors and tanks were repaired.

OLD CUSTOM HOUSE.

One hundred and fifty-two gallon boiler was supplied, leak on steam coil, bath taps and basins were repaired; waste in toilet room cleared, leak in water main located and new service main was supplied.

INLAND REVENUE BUILDING.

Centre bar for hot water boiler was supplied and fitted up, and boiler grates were repaired.

GENERAL POST OFFICE.

Starting box was rebuilt, fan repaired, guard put on oil cup and compensator started, trucks and rubber wheels repaired, new rubber wheels supplied, elevators repaired, elevator doors taken down, frames repaired and fitted with iron wire net, and doors set back into position, sliding door repaired and springs provided; galvanized iron pan made for washing machine, galvanized iron tank supplied, gauges changed and hot water tank repaired, gauges put on and letter chute repaired, and automatic pump drinking water sterilizer was repaired.

One iron pipe guard installed on roof; split radiator, W.C. and urinals repaired; one lavatory installed in chief P. O. superintendent's office; one blow-off tank supplied and installed with all connections; telephone wires covered with 3-inch moulding; marble work repaired; wire guards and window grilles supplied and installed; street letter boxes and parcel receptacles painted; large iron gate and gate frame erected; arc lamps changed for nitrogen lamps in inspector's and dead letters departments; electric system changed in customs postal branch; alterations made to accountant's office and telephone room, and windows and plates were put up in elevators.

POSTAL STATION "A" (ST. JAMES STREET).

Wash basin was repaired; radiators disconnected, water connection made for street service, and concrete work of building repaired.

Temporary offices prepared for clerk of works, heating inspector, inspector of electric plant, storekeeper; also storeroom, and shop for painters, carpenters, electricians, etc., and a machine shop was installed.

POSTAL STATION "B."

W.C. tank and gas leak were repaired; radiator installed; galvanized smoke pipes put up on heaters; radiators changed; pipes covered with asbestos; W.C. seat renewed; 75 feet of hose supplied and alterations were made to post office fittings.

POSTAL STATION "C" (EASTERN).

Coil, boiler and skylight repaired and 75 feet of hose supplied.

POSTAL STATION "D."

W.C. tank and bowls, centre bar for hot water boiler, taps and furnace repaired, and two fire extinguishers and seven window shades were supplied.

POSTAL STATION "E."

Check valve put up on water line and safety valve on boiler, new grate bars were put in furnace; urinals repaired, and two fire extinguishers and 12 shades were supplied.

POSTAL STATION "G" (ST. LAWRENCE DIVISION, PRINCE ARTHUR AND ELGIN STREETS).

The site intended for future postal station "G." The old buildings were demolished and a fence erected. Wall built up, adjoining next property.

POSTAL STATION "H."

Cellar drainer and check valve were installed, new rod supplied for cellar drainer, vent section repaired, new ones supplied, water meter, gauges and radiator were fitted up.

POSTAL STATION "L" (WESTMOUNT).

Swing check valve put on pipes; bibbs repaired, sidewalks paved; tank, coil in boiler, W.C. flush pipe and valve were repaired.

POSTAL STATION "M."

Five wire window screens and one fire extinguisher were supplied.

PUBLIC WORKS AND POST OFFICE DEPARTMENT. (OLD HERALD BUILDING RENTED).

Partitions erected in this building for inspector of electric plant, storekeeper's offices, also for storerooms, machine shop, carpenters' shop; shelves and drawers made for storerooms, and urinals and W.C.'s were installed.

GARAGE—ALTERATIONS AND ADDITIONS. (FORESTS PRODUCTS LABORATORY.)

The alterations and additions to the above building, described in last year's report, are completed.

POSTAL STATION "O." (ST. LAURENT WARD).

W.C. and electric lighting system were repaired.

MURRAY BAY.

PUBLIC BUILDING.

This building, described in the report of last year, is completed.

A contract was entered into on February 5, 1916, for the supply and installation of interior post office fittings.

Contractors: The Berlin Interior Hardwood Co., Berlin, Ont.

A four-dial tower clock (Gillett & Johnson, makers, England) and bell, with all the auxiliary work, has been installed.

PIERREVILLE.

PUBLIC BUILDING.

The galleries and steps in the front and side of the building were fully repaired. The whole of the exterior was repainted and the whole of the interior was cleaned, kalsomined, painted and varnished as the case applied.

PLESSISVILLE.

PUBLIC BUILDING.

The whole of the woodwork of the exterior openings, etc., of this building were repainted. The stone steps refitted and placed, and the concrete walk on one side was entirely rebuilt. In the interior, the post office screen was altered so as to enlarge the work part of the office.

QUEBEC.

EXAMINING WAREHOUSE.

A concrete driveway was put down at north and east sides of building, and cement sidewalk between this building and custom house.

A new hardwood floor was laid in the express office; the electric lighting system reconstructed throughout the building, and alterations made to a partition. Two birch desks were installed in the lobby of express office.

CUSTOM HOUSE.

A contract was entered into on 28th June, 1915, for the waterproofing of the basement.

A trench around the entire building was made for the proper construction of new waterproofing curb wall and the trench refilled after completion of the wall.

Over the entire basement floor a new concrete floor was laid on top of present concrete floor, with waterproofing between old and new floors; this waterproofing was also carried up on walls to the height of about three feet.

The building is lighted by electricity.

Plans and specifications were prepared by this department.

Contractors: The Standard Paint Co. of Canada, Limited.

On account of damage caused by high tide, the elevator machinery has been removed from basement to overhead by the Otis-Fensom Elevator Co.

Walls and ceilings of some offices and passages were kalsomined and main door was revarnished.

Sanitary matters had attention during the year, as usual.

The erection of a time ball, ordered in January, is now in process of construction.

IMMIGRATION HOSPITAL.

Removed 336 beds from detention hospital to the civil detention quarters in new immigration building.

Painting and enamelling of the interior woodwork; painting double windows; enamelling of the operating table and chairs; kalsomining of walls and ceilings; construction of a glazed partition; broken glass replaced in skylights and throughout the building; providing of new burlap for the dados around walls of the large dining room in basement; renewal of enamelled tin sheeting on the operating room; repairing damaged ceilings, chimney, window screens, side steps and walling; repairing roofing; concrete raised and paper, tar and gravel relaid; replacing a broken pipe by a new one, in the main water pipes, and terrazzo floors were laid down in different halls, rooms and lobbies.

ST. ROCH POST OFFICE.

Roofing was repaired; an electric motor was installed in basement for the purpose of pumping water. A wooden sidewalk was put down from the yard gate to the post office door.

ST. SAUVEUR POST OFFICE.

A wooden and iron partition was erected to divide the letter carriers' quarters from the main post office, addition made to electric lighting system; the sidewalk repaired and fencing repainted, and a small window complete was provided in the caretaker's toilet room.

DRILL HALL. ADDITIONS AND ALTERATIONS.

This building, which was described in the report of 1914, is completed.

LOUISE EMBANKMENT—IMMIGRATION BUILDING.

This building, which was described in the report of 1912, is completed.

The mason work, trenching and fitting in of three steam boilers was executed.

GOVERNOR GENERAL'S QUARTERS "CITADEL."

Repairs were made to the terrace platform opening out of the ball room.

RIGAUD.

PUBLIC BUILDING.

The heating furnace underwent considerable repair and renewal. Many other minor repairs were attended to.

ROBERVAL.

PUBLIC BUILDING.

A wrought iron hand railing was erected at the front and side doors, and 5 electric lights were installed.

STE. AGATHE DES MONTS.

PUBLIC BUILDING.

A contract was entered into on 15th September, 1915, for the supply and installation of interior post office fittings.

Contractor: Berlin Interior Hardwood Co., Berlin, Ont.

The post office lock box equipment and brass grilles were supplied.

Window blinds were furnished for all openings.

A small frame earth closet out-house was built at rear of lot until the municipal system of sewerage is completed.

A wooden shelter over the area entrance steps to basement was constructed and painted. Temporary plank steps were built to the main and side entrances.

Installed two outside one-light standard, set up in place, wired, etc., ready for electricity and placed electric lights on interior post office fittings, and two hall fixtures were supplied on the first floor.

ST. GABRIEL DE BRANDON.

PUBLIC BUILDING.

Concrete sidewalks, five feet wide, with curbs next gutters and culverts for driveways and crossings, were constructed; erection of frame outside privies, at rear of lot; taking down and reconnecting of the two hot water heating furnaces; supply and installation of electrical fixtures throughout; steel fire escape platform and stair were erected on the side of the building.

A hooded protection was made over the area steps and basement entrance door.

Pumping and filling cesspool and shutting off the drain, and emptying of cellar previous to waterproofing.

Waterproofing of the foundation walls inside and outside and treating the floor of the basement in a similar manner. Waterproofing was turned up 12 inches on walls and over the present cement floor, and a new 2½-inch slab of concrete was laid over the entire basement.

All doors in basement were shortened so as to swing over new floor.

Installed a four dial clock and bell (J. B. Joyce & Co., England) with all attachments complete.

ST. HENRI.

POST OFFICE.

Sewer made, cesspool installed, concrete work and urinals repaired, and new urinals, W.C. bowls and taps were supplied and installed.

ST. HYACINTHE.

PUBLIC BUILDING.

The outdoor mail receiver was altered and improved, and a section of the box screen was rearranged for a larger receiving wicket.

SHAWVILLE.

PUBLIC BUILDING.

This building, described in last year's report, is still in course of construction.

A contract was entered into on 5th February, 1916, for the supply, erection and finishing of the interior post office fittings.

Contractors: The Berlin Interior Hardwood Co., Berlin, Ont.

The post office lock box equipment and brass grilles were supplied.

Additional electric lights and wall switches were supplied on the ground and first floors, also four one-light iron brackets outside the building at entrances and over the mail receiver and at the rear entrances.

THREE RIVERS.

PUBLIC BUILDING (TEMPORARY).

The whole of the exterior and interior of this temporary building was repainted, and the electric light installation was improved.

NEW PUBLIC BUILDING.

This building, described in the report of 1914, is still in course of construction.

VICTORIAVILLE.

PUBLIC BUILDING.

The whole of the exterior openings, galleries, porches, etc., of this building were repainted and many other minor repairs were carried out.

PROVINCE OF ONTARIO.

ACTON.

PUBLIC BUILDING.

A tower clock, manufactured by Evans & Co., England, was installed complete, the tower lighted by electricity and a staircase built to the clock room.

A record room was constructed in the basement of this building.

ALEXANDRIA.

PUBLIC BUILDING.

Lock placed on outside south door leading to St. Catherine street.

Minor repairs to plaster work in post office working space.

ALMONTE.

PUBLIC BUILDING.

The work of building an addition, described in last year's report, is completed.

A four-dial clock was supplied by W. F. Evans & Sons, England, and installed in tower, including electric light wiring to dials and machinery rooms.

The old galvanized iron roof was painted; hardwood floors laid on stair landings and hall, and alterations were made to soil pipe.

AMHERSTBURG.

PUBLIC BUILDING.

This building was decorated throughout. A new window shade was supplied and the door checks put in good working order.

AURORA.

PUBLIC BUILDING.

This building, which has been described in last year's report, is now completed and occupied by the Post Office and Customs departments.

A contract was awarded for the supply and installation of post office and customs interior fittings 14th May, 1915.

Contractor: The Canadian Office and School Furniture Co., Limited, Preston, Ont.

A tower clock, manufactured by J. B. Joyce & Co., England, has been installed complete. Post office boxes and drawers have been installed and brass fittings set up in the lobby.

The grounds were graded and a fence erected around the property.

A concrete sidewalk was laid in front of this building and up to the side entrance door.

AYLMER.

PUBLIC BUILDING.

The grounds have been graded and seeded down and the cement sidewalk extended.

The tower clock, supplied by John Smith & Sons, England, has been installed complete.

Check springs have been supplied for the outside doors and screens for the windows. Some minor changes were made in the heating; gas burner supplied, and an electric light installed over the stairs.

BARRIE.

PUBLIC BUILDING.

The grounds have been graded, cement sidewalk and curbs put down and iron lighting poles set up around the property.

The broken glass clock dials were replaced, the tower wired and tungsten lamps furnished.

The gas inspection office was moved from the basement to the first floor and connections made for gas and water supply. Various small repairs and changes were made to the plumbing and heating apparatus and a gas burner was supplied.

DRILL HALL.

This building, described in last year's report, is completed.

BELLEVILLE.

PUBLIC BUILDING.

The stone steps were redressed, pointed and patent treads put down. The wooden winter steps were repaired and painted. The roof, which had been leaking in several places, was put in good repair.

Additional electric lights were installed in the post office. The plumbing in the caretaker's quarters was changed and the radiation increased.

The offices of the Inland Revenue department were moved; plumbing fixtures installed, screens and counters placed in position.

BERLIN.

PUBLIC BUILDING.

The interior of the post office was painted and electric lights installed over new sorting cases, and various small repairs were made.

The work of wiring and installing electric fixtures was executed in this building by contractor, A. Lockhart, Berlin, Ont.

BOWMANVILLE.

PUBLIC BUILDING.

A broken radiator was repaired and a wash basin was installed.

BRACEBRIDGE.

PUBLIC BUILDING.

Cement walks were constructed around the building and the grounds graded.

Post office boxes formerly used in the old post office were purchased from the postmaster, for use in the new building.

A contract was entered into, 29th July, 1915, for supply and installation of interior fittings for the Customs department with The Berlin Office and Fixture Co., Limited, Berlin, Ont.

The old desks and chairs were repaired for use in the new offices.

BRAMPTON.

PUBLIC BUILDING.

The position of the screen in the post office was changed, which necessitated additional boxes and drawers being installed, also some extra electric lights and radiators changed. Ten new window shades were supplied in the post office.

At the addition to this building, a new platform was erected and painted.

BRANTFORD.

NEW PUBLIC BUILDING.

The construction of the new public building is now completed and the interior fittings all installed.

A tower clock, supplied from W. F. Evans & Sons, England, has been installed with the necessary platforms, etc. Glass broken in transit was replaced.

The gas inspection department was installed in their new quarters. A wash basin with connection made for sprinkling ashes, was placed in the basement.

BRIDGEBURG.

PUBLIC BUILDING.

The firepot section of the heating furnace gave out during the winter and was replaced by a new one.

A new pulley and rope were put on the flag pole and some changes made as to the plumbing work.

BURFORD.

PUBLIC BUILDING.

The construction of this building, described in last year's report, is completed.

A contract was entered into 4th September, 1915, for the supply and installation of the post office fittings.

Contractor—The Canadian Office and School Furniture Co., Preston, Ont.

A tower clock and bell was supplied from the manufacturer, John Smith & Sons, England.

Brass grilles, P.O. boxes, key locks, etc., furnished.

CARLETON PLACE.

PUBLIC BUILDING.

The various works described in last year's report have been completed.

Solid bronze lock provided for front door and lock for back entrance to building.

Replacing of lights and switches on the post office fittings.

CAYUGA.

PUBLIC BUILDING.

The fence on the rear boundary of the lot was repaired. A bath and sink were installed in the living quarters of the caretaker, and a cupboard built.

CHATHAM.

PUBLIC BUILDING.

The winter porch was put up, the eavetroughs repaired and the electric door bell to the caretaker's quarters put in proper order.

Three special electric light fixtures were installed in the lobby of the post office and tungsten lamps supplied for the same. An electric fan was also furnished.

A new wash bowl was supplied and installed in the post office, and various small repairs to plumbing service were executed.

CHESLEY.

PUBLIC BUILDING.

The department paid a portion of the cost of the erection of a cement wall at the rear of the building to form a dividing line. Connection was made to enable the use of hose for watering the lawn, and the tower clock cables which had worn out were renewed.

CLINTON.

PUBLIC BUILDING.

The tower clock which had been furnished last year was installed complete and the tower lighted by electricity.

COBOURG.

PUBLIC BUILDING.

The flag pole was broken in a severe storm and a new one was erected on the roof.

The heating apparatus was given a general overhauling and a new section put in the boiler. A gas plate to heat water was furnished to the caretaker. New sash cord was put in several windows and two window screens were furnished.

COLLINGWOOD.

PUBLIC BUILDING.

Brass fittings for the post office were supplied and installed. The entire building was furnished with window blinds.

Some new furniture was supplied for the Customs department; the old furniture in the marine inspector's office was repaired, cleaned and varnished.

A contract was entered into 13th August, 1915, for the performance of interior changes by the removal of several partitions on the first floor and the erection of new plaster and glazed partitions to give accommodation for collector of customs and long room, and changes were made in position of doors in offices to give an independent access from corridor for inspector of hulls. Contractors: Bryan Manufacturing Co., Limited, Collingwood, and Michael Healy, of Toronto, Ont.

A contract was awarded 27th August, 1915, for the supply and installation of interior post office and customs fittings. Contractors: The Berlin Interior Hardwood Company, Limited, Berlin, Ont.

DESERONTO.

PUBLIC BUILDING.

The office of the Indian agent was not properly heated and changes were made to provide additional radiation, and the office was kalsomined and painted.

DRESDEN.

PUBLIC BUILDING.

A new fence was erected around this building and painted, and twenty-five loads of gravel furnished to make a good roadway.

The pumping apparatus had not been giving satisfactory service for some time, so it was overhauled and the various worn out parts were replaced, and tungsten lamps were furnished.

DUNDAS.

PUBLIC BUILDING.

The outside electric light standards were painted and the main doors repaired and fitted with check springs.

EGANVILLE.

PUBLIC BUILDING.

The construction of this building, described in the reports of 1914 and 1915, is completed.

A concrete sidewalk, with curb, was built on the public street in front of the property.

The position of the catch basin was changed to the west end of the lot, so that it would be at the lowest point for surface drainage.

Repairs made to leaking roof at the bolts holding the flag pole stays and around the hopper pipe.

A tower clock, made by W. F. Evans & Sous, England, was supplied and installed. A bell hood was erected on roof, weight box and tables built, circular windows prepared to receive dials, and electric wiring and lights provided for tower and dials.

Picture moulding placed in six rooms and hall on the whole of the first floor.

ELMIRA.

PUBLIC BUILDING.

This building is nearing completion. The interior fittings have been installed and also a bag rack.

A contract was awarded on the 28th April, 1915, for the supply and installation of post office and customs fittings.

Contractors—The Office Specialty Mfg. Co., Limited.

ELORA.

PUBLIC BUILDING.

The pitch and gravel roof was gone over carefully and repaired where neeessary.

Various small repairs were executed in connection with the water service and plumbing of this building, and the interior of the building was decorated.

ESSEX.

PUBLIC BUILDING.

Complaints were being made in regard to the heating of the customs offices; the hot water pipes were covered, new gas burners installed, brass weather strips put on and the windows gone over and reputtied.

FERGUS.

PUBLIC BUILDING.

The roof, which had been leaking, was gone over and repitched and gravelled. Small repairs in connection with water service were executed, and the interior of the building was decorated during the summer.

FORT WILLIAM.

PUBLIC BUILDING.

Three burnt out grate bars were renewed; a partition in the addition was beginning to sag, jack screws were applied and new supports put in, and the vault door was sent to the makers to be repaired.

CUSTOMS EXAMINING WAREHOUSE.

The construction of this building, described in the report of 1914, is completed.

A contract was awarded 27th May, 1915, for the supply and installation of an electric passenger elevator.

Contractor—The Turnbull Elevator Mfg. Co., Limited.

A contract was entered into 12th November, 1915, for the making, erection and finishing of interior customs' fittings.

Contractors—The Berlin Interior Hardwood Co., Berlin, Ont.

GALT.

PUBLIC BUILDING.

The old galvanized iron eavetroughs, wooden cornice and brackets were badly decayed.

A builder's scaffold was erected from the ground to remove the old cornice material, and execute the new work.

A new cornice, brackets and eavetroughs were built and painted, making practically a new cornice all around the building.

The electric wiring was altered to suit new cases and tungsten lamps were furnished, and the post office interior and all the exterior of the building, including the roof and new cornice were painted.

DRILL HALL.

This building, described in last year's report, is completed.

GANANOQUE.

PUBLIC BUILDING.

A movable protective covering was made for outside steps. Some plumbing repaired, and the tar and gravel roof was repaired.

GLENCOE.

PUBLIC BUILDING.

A new sidewalk was laid, and old sidewalk raised and the septic tank cleaned out. Several new glasses were supplied for the post office boxes.

GODERICH.

PUBLIC BUILDING.

An outside lamp was put in position and new concrete steps built.

The screen in the post office was altered and an oak wardrobe supplied for the Inland Revenue office.

A rural mail shelter at the rear of the building is in process of construction.

GRIMSBY.

PUBLIC BUILDING.

A sealed service box had to be installed to comply with the rules of the Hydro-electric Commission. Tungsten lamps were furnished.

A safe was shipped from Toronto to Grimsby and placed in the building. Fifty feet of hose, five window screens and two coil springs for door checks were supplied.

GUELPH.

PUBLIC BUILDING.

The junction between the post office property and Douglas street was paved.

Alterations were made in the Inland Revenue offices, which required the changing of the radiators and the electric lights. Collector's office, electric call bells were installed. A store room was built in the basement for this department.

New rubbers were furnished and put on the revolving doors; the lighting service, plumbing and heating were kept in good order; the down pipes and flashing repaired; the toilet room in the caretaker's apartments painted; a drinking tap fitted up in the post office, and a gas plate and tungsten lamps were furnished.

HAMILTON.

PUBLIC BUILDING.

The roof on the addition to this building was repaired and made water-tight. The flag pole and the office of the inspector of inland revenue were painted.

A new partition was put up and arrangements made for artificial ventilation in the basement.

The clock tower was wired for electricity, and fire hose was furnished.

HANOVER.

PUBLIC BUILDING.

The construction is now completed, interior fittings installed and the building is occupied.

A retaining wall on side and rear boundaries, and cement walks were built and the grounds left in a finished condition. A fire escape was erected and weather stripping was put on all exposed windows.

A tower clock was furnished from John Smith & Sons, England, and installed with all necessary platforms, etc., and the tower was wired to be lighted by electricity.

Post office boxes and drawers were set up in the post office, also brass fittings and a wire basket to receive letters were furnished, and office furniture was supplied to the postmaster and collector of customs.

The Canadian Office and School Furniture Co., Ltd., were the contractors for the supply and installation of post office and customs fittings.

HARRISTON.

PUBLIC BUILDING.

The roof around the flag pole was made water tight. The interior of this building was painted and decorated.

INGERSOLL.

PUBLIC BUILDING—ADDITIONS AND ALTERATIONS.

New post office boxes were installed. The old post office furniture was repaired and a light installed in the money order office. The parcel post wicket has been taken out and the space filled with letter boxes.

Several window shades and tungsten lamps were supplied for the post office.

The new office of the gas inspection branch was fitted up with gas and water and, owing to changes, a drain was extended.

KEMPTVILLE.

PUBLIC BUILDING.

Additional keys were furnished for the post office boxes.

Repairing the edge of concrete sidewalk steps and platform to side entrance, where exposed after the removal of wall, destroyed by fire, of the adjoining owner.

Solid brass tube hand railing provided for mail receiver steps and in centre of the stone steps leading to main entrance door.

A tower clock, made by W. F. Evans & Sons, England, with all the appliances, was installed complete.

KENORA.

PUBLIC BUILDING.

An outside porch was closed in by windows and a door. A cable, block and weight were supplied for the clock, and general repairs were made as required.

KINCARDINE.

PUBLIC BUILDING.

The grounds around the building were levelled and a tree and plants set out.

The plaster repaired and the interior of the building was decorated.

KINGSTON.

CUSTOM HOUSE.

The kitchen, bath-room and pantry in the collector's apartment were papered and painted.

Work supervised by Power & Son, architects, Kingston, Ont.

CUSTOM HOUSE—HERCHMER BUILDING (RENTED).

The gas apparatus rearranged and increased to meet the requirements of the inspector of inland revenue. The examining warehouse and appraiser's office were cleaned and redecorated.

POST OFFICE.

Rubber floor covering was laid to the public entrance and outer vestibule, and board covering on the stone steps of the building.

ROYAL MILITARY COLLEGE DORMITORY.

The additional works, in last year's report, have been completed, also the following: Concrete surface gutters have been constructed around the building, having cast iron gratings at outlets and heavy copper tapered buckets with handles as catchalls, upper half being perforated. All drains are run in four and six-inch tile pipe connected to main drains at two man-holes. A built up macadam road and cement walk have been constructed from the main drive to the building, with oval turn at same and cement walks continue to gymnasium on the other side of the square.

LAKEFIELD.

PUBLIC BUILDING.

This is a new building; the installation of the interior fittings in the post office was completed in December and the building occupied.

The tower clock, which was furnished from J. B. Joyce & Co., England, has been installed complete and the tower wired to light the dials. Post office boxes and bag rack were installed in the post office.

The water service was put in good working order, and picture moulding was put up in apartments.

LEAMINGTON.

PUBLIC BUILDING.

The plumbing service was repaired. The interior of this building was painted.

LINDSAY.

PUBLIC BUILDING.

The post office screen was moved to enlarge the lobby; additional tile flooring and section of new wooden flooring was laid, and cork carpet was put down at the wickets behind the screen and in the postmaster's office.

Sliding snow broke the glass in the skylight and this was replaced.

Additional heating was installed in the post office, also several extra electric lights.

The post office and weights and measures offices were painted.

Door checks and window shades furnished. A tower clock was supplied from J. B. Joyce & Co., England; part of the dial frames were broken and cracked in places, and these were made good.

The work of raising the clock tower one story higher was awarded to R. Sheehy. As soon as this is completed the clock will be installed in the tower.

LISTOWEL.

PUBLIC BUILDING.

A drain connection was installed from the septic tank to the town sewer.

DRILL HALL.

This building, which was described in the report of 1915, is completed.

LONDON.

CUSTOM HOUSE.

Repairing boilers, brickwork around boilers and radiators; repairs made to plumbing and plaster.

One large room was decorated; the entire building was wired in conduit for electric light and fitted with the necessary fixtures.

POST OFFICE AND CARLING BLOCK ANNEX.

The roof of both post office and addition were repaired and painted. A new hatchway to the roof was put in and a new rope and pulley put on the flag pole; outside hose connections were made for washing windows; the boiler was repaired; a bag rack was furnished; a truck repaired and general small repairs made as required. The caretaker was furnished with up-to-date cleaning equipment.

The post office building and Carling block annex were wired in conduit for electric light and fixtures installed; the building is now lighted by hydro-electric power, and owing to the change of current a new motor had to be furnished for the post office cancelling machine.

MIDLAND.

PUBLIC BUILDING.

Twelve awnings were furnished and attached to this building.

MILDMAY.

PUBLIC BUILDING.

A short cement walk laid to connect the street sidewalk with the building.

MILTON.

PUBLIC BUILDING.

This building, which was described in the report of last year, is now finished and occupied. The interior fittings and lock letter boxes have been installed. A safe was installed in the post office and adjusted.

A retaining wall, concrete sidewalks and fences were built around this property.

A tower clock, supplied from Messrs. Gillett and Johnston, England, was installed, the bell hoisted, all necessary stands erected and the tower wired for electric light.

Window shades were supplied for this building.

MILVERTON.

PUBLIC BUILDING.

This building, described in report of 1914, is now completed, the interior fittings have been installed.

A tower clock, manufactured by John Smith & Sons, England, has been installed complete.

MITCHELL.

PUBLIC BUILDING.

A hot water front was put in the stove and connection made with the hot water boiler, and tungsten lamps were supplied.

MOUNT FOREST.

PUBLIC BUILDING.

Five loads of gravel were furnished for the driveway, part of the boiler was broken and had to be repaired. Owing to heavy rains, the cellar became flooded and had to be pumped dry.

The interior of this building was decorated; several additional electric lights were installed, and a drop letter box furnished for the interior of the post office.

NAPANEE.

DRILL HALL.

This building, described in the report of 1915, is completed.

PUBLIC BUILDING.

The roof including conductor pipes were repaired and all painted; connection was made for additional water supply; the drain flushed, and the fence around the property was painted.

NEWMARKET.

PUBLIC BUILDING.

This building, which was fully described in my last year's report, is now completed. The interior fittings have been set up.

Retaining wall, concrete pavement and sidewalks were constructed and the grounds graded.

Messrs. Gillett & Johnston, England, furnished a tower clock, with bell, which was installed, with all necessary accessories, and the tower is lighted by electricity. Window shades and tungsten lamps were furnished.

NIAGARA FALLS.

PUBLIC BUILDING.

The roof was repaired and given a coat of roof paint. The brick and stone work, also outside woodwork, were repaired and the whole exterior painted.

A new fence was erected in the rear and painted; the storm sash was repainted; iron guard bars were put on several windows, and one door and the customs office were painted.

The safe door was repaired and new keys furnished, one large awning furnished and an electric light installed on the stairs.

NORTH BAY.

PUBLIC BUILDING.

Shelving and counter placed in the railway mail service department, and six fly screens supplied.

The post office screen was altered and a new section of boxes installed, and the customs long room was decorated.

NORWICH.

PUBLIC BUILDING.

The erection of this building has been completed and the interior fittings installed.

A fence, concrete sidewalk, additional steps and plank bridge over gutter have been built.

A J. B. Joyce & Co., England, tower clock was furnished and the same has been set up and left in good running order.

Brass fittings have been supplied for the post office. A safe was hoisted and placed in the customs department.

A contract was entered into 26th May, 1915, for the supply and installation of post office and customs fittings. Contractors: The Walker Bin and Store Fixture Co., Limited, Berlin, Ont.

ORANGEVILLE.

PUBLIC BUILDING.

The safe door got out of order and was sent to Toronto to be repaired. Door checks and hinges were provided for front doors.

ORILLIA.

PUBLIC BUILDING.

The old letter boxes were cleaned and relacquered to match new ones: new brass grilles supplied and old brass ones refinished; additional electric lights installed and tungsten lamps supplied.

The J. B. Joyce & Co. tower clock machinery received last year was installed.

The customs department was moved from temporary quarters to offices in the new building. The vault lock was repaired, new key furnished, and window shades supplied for offices.

OSHAWA.

PUBLIC BUILDING—ADDITION.

Broken parts in the heating system were renewed; window shades, door checks and tungsten lamps furnished.

OTTAWA.

PARLIAMENT BUILDING FIRE.

On the evening of February 3, 1916, while Parliament was in session, fire, originating in the newspaper reading room situated in rear of the main tower entrance and between the Chambers of the House of Commons and the Senate, swept practically through the entire building, leaving only the library of Parliament and the new western wing undamaged. The House of Commons and the Senate Chambers were completely destroyed, together with all the offices immediately adjoining them, making it impossible to continue the session in the damaged building, so the Victoria Memorial Museum was fitted up with temporary subdivisions, and the Commons and Senate were housed with practically no interruption to their sittings.

The building, which has been completely demolished since the fire, with the exception of the Library, was designed by Mr. Thomas Fuller, and was erected under contract, work starting on the 20th of December, 1859, and was virtually completed in October, 1865, the Legislature of Canada holding a session therein on the 8th of June, 1866.

The style of architecture was Gothic, and from its setting and environments and historical associations was a building which not only admirably served the purposes for which it was designed and used but was also an object of admiration and pride to the Canadian people. The exterior facing stone was Nepean sandstone, mostly rock-faced, trimmed around windows, doors and cornices with Ohio grey sandstone, with relieving arches of Potsdam red sandstone.

The interior walls were of brick, laid in mortar composed of sand and lime.

The construction of the floors generally was wrought-iron beams, filled in between with a concrete composed of waterlime and sand.

The roofs throughout were of heavy wood beams, and covered with slate, copper, and iron.

The main central tower was of the same construction as the walls but was backed up with limestone blocks. The interior work in tower was mostly of wood, and the roof was composed of heavy wood beams covered with iron.

The interiors of both Commons and Senate Chambers were constructed with galleries on all sides, and a series of polished granite arches, supported on polished granite columns, ran around the Chambers. The ceiling was flat and divided into panels of prism glass, through which the Chambers were lighted, the electric lamps being placed above the prisms.

A considerable quantity of furnishings were saved, including a number of the oil portraits which hung on the walls of the Senate and corridors.

Parliament appointed Messrs. John Pearson and J. O. Marchand, architects, to make a report on the damage done by the fire, and prepare plans for the reconstruction of the building. A commission also was appointed composed of Mr. R. A. Pringle, K.C., and Judge MacTavish to inquire into and report on the origin of the fire.

Parliament Building.

The attic of the Parliament Building was given attention as a precaution against fire; brick walls were carried up to the under side of roof boarding with the fire communicating doors and the wood beams covered with asbestos over metallic lath. This work was all completed with the exception of 1,880 yards. In connection with and made necessary by the rewiring of parliament buildings, some sixty-five rooms were re-decorated, also hallways and stairways. The Speaker's quarters in the House of Commons were also re-decorated to meet the requirements of the Hon. Mr. Sevigny. A hot water radiator was installed in the stationery vault. The room occupied by Dr. Flint, Clerk of the House, was also re-decorated and a new hardwood floor laid.

In the Senate reading room, there were installed three Monarch hot water radiators and a new floor was laid. Rooms 23 and 28 were renovated and in the latter, six new windows were placed and a hardwood floor laid. Two cupboards were erected in Mr. Lelièvre's room and one in room 19 and a set of open shelving in rooms 18 and 19. In addition to this, there were minor repairs made where necessary and the building kept in proper condition.

The corridor surrounding the light shaft, ground floor of Senate, was laid with marble mosaic after the concrete floor had been cut up for the placing of electric light conduit.

The skylights over the Senate and House of Commons Chambers were replaced with modern steel and copper skylights glazed with ¼-inch wired plate glass. The galvanized iron roofs and cornices over both chambers were removed and "toncan metal" roofs on wood strips laid.

The pent house over the twin elevators, House of Commons, was altered by lowering the roof about eight feet.

East Block.

This building has been equipped with the Presto heating plant, the work was commenced in 1914 and closed down for the winter, being again proceeded with during the summer months. Everything is now complete including the placing in the eastern stack of a 45 inch full house fan fitted with water-cooled bearings for the purpose of creating induced draught, and the placing of a new ventilating stack to give better ventilation in boiler room and carry off gases which were causing trouble in rooms adjacent to the boiler room thereby preventing windows from being opened.

The window in room 53 (overlooking the yard) was changed from a Gothic to a square head opening in order to increase the light. Rooms 131 and 133 were renovated for Auditor General's Department. In room 96, a cast iron enamel wash basin was installed, in room 99 a system of call bells, both for the Department of External Affairs. One hundred and fifteen feet of shelving was placed in three basement rooms for Finance Department. The room occupied by the Assistant Superintendent of Labour was renovated and a wash basin installed. Three sets of Pullman automatic ventilators were placed in the minister's room and six sections of shelving were erected in the incinerator room. The messenger's room, Department of Justice, was renovated and a new floor laid. Shelving was erected in the stationery room and in the private secretary's room. In the corridor of the Privy Council a partition was moved and the height increased. Two sets of shelving were erected in room 85, and a cupboard in the office of the assistant clerk of Privy Council. For the Secretary of State, rooms 110, 112 and 121 were renovated. In room 121, an electric clock installed, also a new wash basin; a new hardwood floor was laid in room 110 and in room 116 the floor was planed and treated; shelving was erected in rooms 3 and 4.

Alterations were made on the top floor to accommodate the Chief Press Censor. Ash partitions, half glass, were erected, walls tinted, woodwork painted and cupboards built.

The ground and first floor corridors were stripped of the old gas and combination fixtures and a complete installation of Realite fixtures installed, making a marked improvement in the appearance of the corridors.

In addition to the foregoing, there were placed thirty-eight new windows in various rooms, most of which were renovated. Minor repairs were executed where found necessary.

West Block.

In the West Block the work of providing increased accommodation for the Department of Trade and Commerce was proceeded with and completed. The work done consisted of the removal of a brick wall between rooms 35 and 37 and the placing of an iron column and steel girders to carry the wall above. The new quarters were renovated and electric lighting and plumbing altered. Twelve brass rods and curtains were installed in various rooms throughout the department. Alterations were made to give increased accommodation in the Department of Inland Revenue, consisting of removing partitions and erecting other partitions of 6-inch terra-cotta to a height of the old partition, the balance in sash with opaque glass. Alterations were also made to the heating radiators to suit the new room and one two-light cluster and electric light fixtures placed, as well as a re-arrangement of bells. The Weights and Measures branch of the same department was also renovated and a new wash basin installed. The floor of room 228 was repaired and a new floor laid in room 64; this room also was renovated and a time clock and system of call bells installed.

For the Department of Public Works, the chief engineer's storeroom in the basement was renovated, and some shelving erected. Room No. 8 was renovated, as were also rooms 3, 4, 6, 118, 118a, and that of the paymaster, collector of revenue and the record room. In the stationery stock room, in basement, one large window replaced two smaller ones. Two new doors were also provided to the paymaster's office in basement. A room for the stationery branch of the Department of Railways and Canals was renovated, cleaned and oiled the floor of messengers' room and that of room 147 and made a pigeon-hole cabinet for room 190. There were also a number of rooms renovated in connection with the re-wiring. In addition to works enumerated here, a number of minor matters were given attention, whereby the building was kept in proper repair. The sandstone steps to the customs entrance were very much worn and were cut down and patent non-slip treads inserted. The sandstone ballusters on the entrance landing were replaced by bronze ballusters.

At the Wellington street main entrance there was installed a set of revolving doors and the tile floor made good where necessary.

The ground floor corridor was laid with battleship linoleum, and in doing so a new departure was made in laying the corridor floor covering close up from wall to wall, in place of a centre strip only as has been done heretofore.

Considerable pointing was done to the stone work, more particularly on the south, east and west walls from ground to under side of first floor windows. Some of the base course stones had to be renewed, as they had been split open by frost.

A decided improvement in the system of corridor lighting of this block was made by the installation of Realite fixtures.

Supreme Court—No. 40 Bank Street.

The greater portion of the galvanized iron cover on the deck roof was renewed. A portion of the stone (exterior) walls was pointed, also the retaining and enclosure walls at rear. Repairs were made to window casings and the lighting system.

Langevin Block.

The principal item of constructional work done by this branch in the above building was the extending of the iron staircase from second to top floor at the west end of building. In conjunction with this work, the wellways of two elevators were whitewashed and rubber mats were installed in three elevators.

In room 24, occupied by Agricultural Department, weather strip was placed around window and one rotary ventilator installed. Some changes were made to the photographic room of the Patent Branch in the attic, a small dark room was built and five call bells installed. Room 22 was also renovated.

The Minister of Interior's offices, three sets of ventilators were supplied, and for the correspondence registration branch, erected 137 feet of glass partition, changed the position of another partition, repaired the floor, rearranged the heating system, removed some steel filing cases and did some 1,050 yards of washing and tinting.

For the office of the Deputy Minister, placed a new wash basin; rooms Nos. 30 and 36 were renovated for the Private Secretary, Post Office Department, also that of the Deputy Postmaster General.

A large section of the copper roof which had been laid with a standing seam was removed and relaid on wood strips with expansion joint.

Post Office.

A glass screen was placed 26 by 8 feet to take the place of a wire mesh screen. Three sets of rubbers and felt were placed on three revolving vestibule doors. A wash basin was installed in the dead letter office, an 1¼-inch pine floor was laid in that part of the basement where vaults are located. A set of pigeon-holes erected in the examination room. The large room on the first floor, formerly letter carriers' room, was renovated and electric light given attention. An electric clock was placed in the letter carriers' division, repairs were made in the lavatories and in the dead letter office; to replace a wooden one a terra-cotta partition was erected, a doorway was cut in the brick wall in basement and parcel post boxes moved to make room for the installation of a new elevator. The floor was given two coats of paint and the entire top floor fitted up as quarters for the letter carriers. Many minor repairs were carried out from time to time.

Customs Building—Sussex Street.

This building, a description of which appeared in the report of 1914, is still in process of construction.

Mines Branch Building, Sussex Street.

About 200 feet of shelving, 40 feet of "V" joint partition, was erected, with a sliding door 8 feet wide, replaced a new floor on east side of building, with 16 feet of track and rollers for same. Installed a Quebec heater and made minor repairs to stairs, etc. Renewed the foundation of an outhouse or storeroom with some 700 feet of plank and 30 joists. Alterations were also made to the carpenter shop and the walls whitewashed and woodwork painted. Fitting up the ceramic laboratory of Mines branch, including the supplying and laying of about 8,000 wire cut shale bricks, erecting shelving; placing sections of radiators, erecting a smokestack (about 40 feet, with cast iron base, buckstays and bolts); building a terra-cotta partition and plastering same, together with about 250 yards of plastering on stone wall; installed a wash basin and electric lights; in the photograph room a new wash basin was erected; in the cement laboratory drain pipe was diverted to make room for a large testing machine. Additional laboratory room was provided for the ceramic division. The drain at the fuel testing plant had to be opened in mid-winter to clear it, and there is a possibility that a large section of the tile pipe will have to be renewed.

354 Sussex Street, Occupied as a Distribution Office of Department Public Printing.

The hallways were completely renovated, all broken glass replaced and a Quebec heater installed; a number of rooms were renovated and repairs made. Electric lighting was given attention. The wooden sheds in the rear of the premises, facing the driveway, were repaired and painted.

Printing Bureau.

In connection with this building, there was placed new wood planking at the rear entrance; a partition was erected in the basement; the stamping room and franchise room was renovated throughout; the stock room was also renovated; the walls washed and tinted, fifty columns, also two partitions and forty-one beams were painted. The office of the King's Printer was renovated and thirty-four feet of partition was erected; made alterations to existing partition in the office of the Assistant King's Printer. Installed two radiators and generally renovated these quarters. Repairs were made to the concrete floors and one hundred and forty-six feet of gutter cut in floor and a cast iron cover placed thereon. Electrical supplies, plumbing, lumber and hardware were supplied for mechanics employed by the stationery department. The wooden sidewalk at the east side of the building and half way across the rear was replaced by a concrete walk.

A portion of the exterior walls were pointed, and the rear of all wooden outbuildings facing the east side of the building were repaired and painted.

Royal Mint.

Some washing and tinting was done and 100 feet of shelving was erected in the assay department, as well as painting of wood work. Some changes were made to the hot water supply in the old portion of refinery. A new fan was purchased and installed in the refinery to replace the old worn out fan, and a new fan was supplied. Repairs were made to the roof and minor repairs to building where necessary, including the varnishing of main doors.

A section of the pavement in front of the refinery was laid with mastic.

Victoria Museum.

Occupied by the National Art Gallery and Mines Branch.

National Art Gallery: Renewed the boiler plates in heating boilers and cleaned the furnaces; the water pipe from lavatory was renewed; the position of telephone was

changed also bells and annunciator. Some 262 yards of burlap placed on the wall with moulding and painted to match existing burlap. A green baize door placed and the floor stained and waxed. Four sections were removed from water coils in main gallery and wall blocks for holding cases and a number of key stretchers were supplied.

To the above work may be added the moving of the Mines Branch to Wellington street and the fitting up of the building as temporary quarters for the Commons and Senate. This entailed considerable work, and included the construction of a large number of rooms in the main halls, the erection of a new lavatory, the installation of a system of bells and phones. The electric lighting was considerably changed to meet the new requirements. A Senate chamber was constructed and the building generally fitted up and furnished without the business of the House being seriously handicapped.

Royal Victoria Memorial Museum Tower.

A contract was entered into on the 13th September, 1915, for the partial removal of the main tower at the Victoria memorial museum.

The work consisted of removing eighty feet (80′ 0″) of masonry, eleven leaded stained glass windows, a roof and ceiling of steel floor beams, covered with terra cotta and concrete.

A temporary wooden roof was erected at the first floor level over the area of tower.

The construction was completed during the fiscal year.

Contractors—The Carleton Construction Co., Limited.

Clerk of works.—Pat. Canty.

Fisheries Building, Queen Street.

About 94 feet of concrete capping was placed on stone retaining or garden wall at back of building.

For the purpose of showing specimens, twelve cases made of plate glass on steel frames with wood bases were supplied. The sidewalk was repaired and areas enclosed with prismatic sidewalk lights and the wooden fences repaired and painted.

Harris and Campbell Building.

This building is entirely occupied by the Superintendent's Branch, Department of Public Works, to give increased accommodation for the carrying out of repairs, etc., to Dominion buildings at Ottawa.

Prism lights were placed in the Queen street areas. The chimney was built up an additional 13 feet to prevent smoke beating down on streets during high winds. Minor repairs were made where necessary and the building kept free of shavings and other combustible materials usually found around workshops of this description.

Re Wellington Street Properties—Perley Home, No. 415 Wellington Street.

This building has been thoroughly overhauled and renovated, partitions erected, floors repaired. Electric lights, telephones and call bells installed and generally fitted up to meet the requirements of the live stock branch of the Department of Agriculture, which was recently moved into the building from 66 Queen street. Nos. 207 and 227 were reinforced and altered to meet the requirements of the Department of Militia and Defence which was to occupy the premises as inspection rooms. The plumbing and heating were thoroughly overhauled, a new steam boiler installed, also the electric wiring and lighting, and two electric freight elevators were installed.

As a result of the disastrous fire of February 3, the entire property was placed at the disposal of the Mines Department, which was moved from the Victoria memorial museum to give the necessary space in that building for the Senate and House of Commons.

Number 303 Wellington street, Workman store, was fitted up for stationery branch of Naval Service. One No. D 2 A Otis hand power elevator was installed; about 800

feet of shelving erected; an archway cut through a brick wall, a lath and plaster partition removed; floors repaired; lighting and heating altered and increased, and the building made suitable for the purpose for which it is now used.

At 345 to 351 Wellington street, occupied by the Geological Survey of Mines Branch, there was about ten thousand feet of shelving erected, and a freight elevator installed. The building shored up sufficient to carry the weight that it will be required to carry; a new heating system installed, also rewiring and the building thoroughly overhauled and renovated.

Re Wellington Street Properties. (No. 2.)

The Department of Militia and Defence has been given several properties, Nos. 341, 343, 353, 357 Wellington street, for use in caring for war supplies and housing certain portions of battalions raised in Ottawa.

22 Victoria Street.

This building is occupied by the War Hospitals Commission and the Economic Development Commission and was thoroughly renovated to meet the requirements of the Commissions; the plumbing and electric light overhauled and a new boiler installed, some cupboards erected, an archway made through wall to lavatory, a new closet and wash basin were placed, a system of call bells was installed and brass name plates were placed at the entrance door.

21 Cliff Street.

This building was renovated for the Fruit branch, Department of Agriculture. Seven tungstoliers and two telephones were installed. A brass name plate was placed at the entrance and eight awnings for windows were erected.

Canadian Building.

Structural work.—Two iron frames and skylight awnings were placed over skylights for the seed branch, Department of Agriculture. A partition was taken down and rebuilt in another room. Five rooms were also renovated for this branch; two 4-light clusters and four drop lights were installed in quarters of Mr. Ruddick; Dr. Hilton's office was also renovated.

Three rooms were renovated for the dairy branch and the office of the chief of the branch was renovated.

For the immigration branch, Department of Interior, six special cupboards were erected.

A considerable amount of work was done in this building for the lands patent branch previous to their removal from the Langevin block, comprising about 900 yards washing and tinting of walls; 500 yards cleaning and oiling hardwood floor; the removing of vault; taking down and re-plastering ceiling; placing new hardwood flooring; removing a partition; erecting some new ash half-glass partitions. There was also installed, in these quarters, sufficient electric light clusters to give adequate light and a system of call bells to meet the requirements of the branch. Rooms 13 and 14 were renovated and a tungstolier placed in room 13.

For the Department of Trade and Commerce, census branch, we erected 176 feet of open shelving and the lavatories on the 6th floor were renovated.

In addition to above works, repairs were made where necessary.

Woods Building.

Rooms 16, 17 and 18 were renovated and the floors oiled; in room 45 erected twenty-three feet of wood and glass partition, renovated the room and oiled the floor. Considerable work was done in the quarters occupied by contracts branch, consisting of taking down a wall between rooms 52 and 53, renovating the same and placing cork

lino on floor. Room 55 was also renovated and electric lights provided; room 2 was also renovated; shelving was erected in room 71, and in room 80 some three hundred hooks placed on wooden strips. In the records office some changes were made to the electric lighting, some shelving in cupboards was altered, 100 hat and coat hooks placed on wood strips and minor repairs were made. The lights in quarters occupied by pensions claims board were re-arranged and call bells installed. New quarters were prepared for the adjt. general; 14 feet of glass pannelling placed on top of partition, the room renovated and a three-light fixture installed. In room 6a, fourteen feet of partition was erected, bell connection made to orderlies' room and a few minor changes made. Two rooms in the basement were washed and tinted for the central registry. Rooms 3, 4, 30, 50, 54 and 56 were renovated. A private branch telephone exchange was installed; electric lighting given attention, new fixtures installed and general repairs made where necessary.

66 Queen Street.

Occupied by Agriculture Department.

The live stock branch was moved from this building to the old Perley home on Wellington street, and the space that was vacated was taken by the publications branch.

A re-arrangement of electric wiring to suit machines was attended to for Agriculture Department.

Robinson Building.

In this building, rooms 2, 3 and 4, 5-10, private office and the hallway on top floor were renovated and floors oiled for the Post Office Department, a sink was installed on the ground floor, and the lighting and call bells were repaired as required.

Imperial Building, No. 126 Queen Street.

The Interior Department occupy the entire building; one double and one single cupboard was supplied and placed for char service.

Stephen Building.

Shelving was erected, window shades supplied, a number of drop lights provided and two rooms renovated for the seed grain branch. The stationery branch, Interior Department, was moved from the Jarman and Popham building on Queen street (the lease of which had expired). To this building considerable shelving and other alterations were required.

Lamb Building, 317 Queen Street.

This building is occupied by the Department of the Inland Revenue for laboratory purposes.

Some twenty-two rooms were washed and tinted (about 2,713 yards) and 130 yards painting of ceiling and floors.

Trafalgar Building.

Room 206 was renovated throughout, about twelve feet of partition was built to ceiling and a green cloth door placed. Rooms 208 and 209 were renovated.

For the acounts branch, Department of Interior, a re-arrangement of the electric lighting was executed and a number of drop lights installed, and lettering on doors was attended to.

Carling Building.

For the school lands branch, Department of the Interior, a partition was extended to ceiling, 26 drop lights were installed for the survey records branch, and minor repairs made where necessary.

Booth Building.

The quarters occupied by the War Purchasing Commission were fitted up with a system of call bells. Electric lights, brass rod and curtain were supplied; alterations made to partition, door springs, etc.

For the Department of Indian Affairs, some minor repairs were made.

Birks Building.

The departments having space in the Birks Building are: Agriculture, Militia and Defence, Railways and Canals, and Public Works.

The Dominion Entomologist was supplied with storage sections and storage cupboard; shelving and a brass plate was placed on the 6th floor for Agriculture Department; two double cupboards were placed for charwomen, and for the engineer's branch, Militia and Defence, window shades were supplied.

Royal Bank Building.

For the Department of the Interior, some shelves in the basement were built, installed a new wash basin and provided a number of window shades.

For the Engineer in charge of test borings, D.P.W., we placed five awnings, did some lettering upon the door and moved the bells and phone from 128 Queen street.

Blackburn Building—(Union Bank)—Sparks Street.

For the railway lands branch, Department of the Interior, there was erected 66 feet of partition with fireproof panels, a stationery cupboard, about twelve feet of cupboards and a blue print cupboard was built. Electrical connections were made to a blue print machine and a wood sink, lined with lead, was installed. Some 14 feet of fireproof partition and 21 feet 6 inches of shelving were erected in the quarters occupied by the water-power branch.

G. T. Railway (Central Station) Building, occupied by Railway Commission.

In this building, the offices of the Chief Commissioner and the Asst. Chief Commissioner were renovated, also in rooms 26, 28 and 30 the floors were oiled, and a few minor repairs were made.

Plaza Building.

The three top floors of this building were occupied by the statistical branch of the Customs Department early in the year. Their former quarters in the Woods building were urgently required for the Department of Militia and Defence. Some few articles of furniture only and the necessary cupboards for the equipment of the char service were supplied.

Rea Building.

This building is occupied by the Departments of Naval Service and Marine and Fisheries. For these departments one hundred and thirty-eight window ventilators were placed; about 1,000 yards whitewashing was done to walls in the area to give more light in the building; two vault doors were placed for the naval architect; eleven door springs were placed for rooms. In room 538, we erected 32½ feet of partition and for the records branch 24 feet of railing. Some shelving was placed in room 87, and in room 530 a gas radiator was installed. In the intelligence branch, installed a system of call bells, and six white delica glass bowl electric fixtures. Other minor changes and additions in lights and bells made and general repairs were done.

GENERALLY.

During the year, some 4,500 requisitions for various works, supplies, etc., were received. I have enumerated in this year's report only important works of a structural

nature and those which can be classed as important renovations carried out by this branch of the department. The re-wiring of the departmental and parliament buildings was done under the supervision of the chief electrician. The re-decorating, however, necessitated by the cutting of walls, was repaired by the staff. The removal of the main tower of the Victoria memorial museum was supervised by a clerk of works of the headquarters staff; this branch built the fence enclosure and cleared up debris after the work was completed.

The disastrous fire of February 3, which so seriously damaged the Parliament buildings, necessarily gave this branch much work. Although the fire occurred on the night of February 3, by 3 o'clock of the 4th (Friday), the House of Commons met in the auditorium of the Victoria memorial museum, and by Monday, the 7th, the museum building had been practically emptied of its exhibits and quarters were fitted up for both the Senate and House of Commons and the respective members.

The cleaning up of debris, etc., at the old parliament building was supervised by Mr. Ewart.

The guarantee on the Wellington street pavement expired this year, and extensive repairs were made by the contractors before the same was released.

The departmental staff repaired the pavement on parliament hill. The old pump house at the foot of the locks was demolished and the ground levelled. Attention was given to the Lovers' Walk in the way of drainage to prevent the washing down of embankment, and considerable foliage set out in cliff. A quantity of glass was replaced in Government greenhouses, and these houses received every care and attention; the chrysanthymum show was the best in years. The walks and paths were all kept clear of snow and sanded when necessary during the winter months. Step covers and storm sash were placed in position and again removed in the spring.

Grass was cut, lawns rolled and watered and pathways trimmed regularly and a top dressing of wood ash fertilizer placed on the grass. Flower beds were filled with bulbs and other decorative flowers. Trees trimmed and dead wood removed in parks and along the cliff, both above and below the Lovers' Walk.

The numerous heating plants were carefully supervised. Coal delivered, ashes removed and the equipment kept in first class condition. The same care was given to all elevators in our Ottawa buildings. All the operators were furnished with uniforms, and have given excellent service to the department.

(Improvements and repairs on all buildings in Ottawa, occupied by the Federal Government, are executed under the supervision of Mr. John Shearer, Superintendent of Dominion buildings.)

CENTRAL EXPERIMENTAL FARM.

Apicultural Building.

A contract was entered into the 29th day of July, 1915, for the erection of this building which is situated on a site fronting on the winding road.

This building measures 32 feet front by 27 feet deep and consists of a storey and a half. Roof is covered with asbestos shingles, brick veneer facing, set on concrete foundation walls, giving a basement full size of building.

The basement floor consists of furnace room, coal bunker, toilet room and three bee cellars, each cellar provided with ventilating shafts terminating at the femerell on roof, also two 9-inch cold air ducts, with intakes 80 feet from building.

The ground floor is sub-divided into two offices, dark room and laboratory.

The first floor divided with a studio and storage room and a hoist from ground to first floor is installed.

Heating by hot water system, and lighting by electricity.

Plans and specifications prepared by this department.
Contractor, William Ashe.
Contract completed within fiscal year.

Cereal and Agrostology Building.

A contract was entered into the 19th November, 1915, for the erection of this building which is situated on the site of the old cereal building.

The building measures 40 feet front by 90 feet 6 inches deep and is two storeys in height.

The construction is a balloon frame, set on concrete walls, outer walls being covered with double sheeting and tarred paper interposed between, up to the first floor, and with shingles from first floor to the eaves; the roof is also shingled.

The basement floor is allotted to a furnace room, power room, toilet room, cellar and storage earth floor.

The whole of interior is finished in V sheeting painted, the outer walls double with sulphide paper interposed.

The ground floor is divided into four work rooms and a thrashing apartment.

The first floor contains one office, one bakery, one milling, one grain inspection, one grain sorting, three work rooms and granary.

Heating is by hot air—lighting by electricity.

Plans and specifications prepared by this department.

Contractors—Cathcart & Webster.

Contract completed March 13, 1916.

Chemical Laboratory.

In the basement of the new wing of the chemical laboratory, two up to date laboratories have been fited up. Hardwood centre and side tables fitted with drawers, cupboards, wall cupboards with glass fronts, two fume cupboards are also installed; floors leaded, sash doors and ventilators connecting with chimney. Each of the said centre and side tables, also the fume cupboards are piped for water, gas, air and vacuum, and fitted with N. P. fixtures, the tables are also provided with special porcelain sinks and glazed tile traps connected with iron waste and drain.

A "Crowils" vacuum and pressor pump was installed on concrete pier in the basement and connected with motor. Connections are also made with the pump and the air and vacuum piping of the tables in the old and new laboratories. Connections are also made between the vacuum pump and the drying oven on ground floor.

A cut-off system in the water and gas piping of all the several tables in the old and new laboratories, was installed, so that one or more tables may be cut-off without the whole being involved.

Sundry minor works such as installing a canopy light at main entrance door, a large four door glass fronted cupboard installed in the basement, curtain and pole, etc. supplied and fixed in library. All tables in old laboratory were repaired, waxed, etc.; changes were also made in electric lighting.

Offices of the Tobacco Division.

Installed thirteen wall radiators and connections with steam boiler in tobacco room; two W.C.'s complete; three enamelled wash basins with N.P. fittings; eleven 2-light electric fixtures; twelve 1-light wall bracket fixtures; six flush sockets, and seven switches. Laid hardwood floor on ground and first floors, basement floor was laid in concrete; provided and fitted a ventilating shaft from fume cupboard to roof; installed laboratory tables, fume cupboard and connected these latter with gas and water. Provided and fitted thirteen window blinds, thirteen window fly screens, also four awnings and other articles, and made minor repairs. Wiring and setting up three dynamos, seven double sockets and lamps supplied and fitted. Installing a centrifuge apparatus, a rheostat, and a steam radiator in attic.

New Greenhouse Building.

Two offices were fitted up in the attic for the horticultural division; two dormer windows were erected in the south room, including painting, glaziug and plastering; one hot water wall radiator was installed, also two large four door cupboards, shelving, clothes cupboard and window blinds.

In north office, two hot water wall radiators, two four door cupboards, partition, shelving, window blinds and electric drop light.

A dark room was also fitted upon same floor with leaded sink, hot and cold water connections, leaded draining and splash boards, three cupboards, shelving, drying racks and painted black.

A small room adjacent to dark room was partitioned off, interior painted black, three sliding sash frames containing ruby, yellow, and white glass was also provided and fitted, also two drop lights installed.

The ground and first floor windows were provided with storm sash, and seven windows were fitted with awnings, also shade blind to all windows.

Electric light wiring in conduit was installed in new greenhouse, 75 iron shelf hangers and shelving.

Three hundred and eighty-five lineal feet of concrete sidewalk was laid on west, south and east sides of the new greenhouse. Sundry repairs were also made in this building.

Poultry Division.

Altering and arranging feed house into temporary offices. Carpentry work, painting, installing stove, etc.

Demolishing 370 feet old offices, hen houses and store house.

Erected two hen houses measuring 32 feet front by 16 feet deep, concrete floors, glass and cotton fronts with ready roofing covering roofs.

Erected one hen house measuring 20 feet by 20 feet concrete floor, glass and cotton fronts with ready roofing covering roof.

Erected a water fowl house, 60 feet by 15 feet deep, concrete floor, glass and cotton on front and back sides, divided into twelve pens, one feed room at north end with chimney, hydrant, double sheeted with paper interposed.

Partitioning off bed room in feed house, altering the cockerel house, making cotton frames, changing windows, also making, fitting and repairing cotton frames for several of the hen houses, and other repairs.

Grounds.

A new hand pump was installed at well near the old green house. Two fire hose huts, 10 feet by 8 feet, framed, sheeted, shingled and painted, were erected on suitable locations, one at the experimental farm, opposite main cow barn, and the other near the centre of the observatory building.

Provided and installed on the farm grounds, are three groups of emergency ladders, (4) four ladders in each group, each group are hung on supporting brackets and sheltered by a roof; 780 feet of 9-inch drain pipe was laid between the main drain and the agricultural building, and connected at the main drain and by concrete cesspit with cast iron bole iron cover; goose-neck hydrants were installed; 540 feet of piping was laid at the poultry yard, 250 feet at the forage plant shed, 700 feet laid in the turkey yards, 612 feet was laid from tobacco barn, 140 feet was also laid to the agricultural building.

One three nozzle hydrant was installed at the entrance to the observatory grounds.

Grading and stoning 900 feet of roadway, 1,200 yards of sodding was laid at geodetic building, and 560 lineal feet of concrete sidewalk; a concrete manhole with iron cover at near entrance of geodetic building, also a concrete manhole with cover, connecting with drain at observatory building, a 5-inch gate valve and manhole cover,

etc., was installed near pump house, 400 feet of electric cable laid in conduits between the observatory and the north azimuth mark hut, a by-pass with 4-inch check valve connecting the motor mains at biological laboratory was installed.

(Improvements and repairs on buildings at the Ottawa Experimental Farm are executed under the supervision of Mr. John Sharpe, Clerk of Works.)

GOVERNMENT HOUSE—RIDEAU HALL.

Alterations, Additions and Sundry Repairs Carried Out.

The dairy standing opposite the west end of stables, was moved to another site about 250 feet to the northeast of old position.

A large amount of grading down embankment and filling up of old site where building stood was carried out, then sodded; trees and shrubs were planted.

An addition of about 2,890 sup. yards was made to the kitchen, 16 large elm trees and stumps, together with a large number of boulders, of which several had to be drilled and blasted, were removed from this piece of ground. Nine hundred and fifty lineal feet by nine feet high, rough board fence was rebuilt at kitchen garden. Six new hotbed frames and sash were made, painted and glazed.

A new macadam road 915 feet long by 14 feet wide was built from Secretary's cottage to McKay Street. Two new gates with 10 by 10 cedar posts were made for entrance to new roadway from McKay Street.

A large addition of 300 feet by 212 feet was made to the lawns and flower garden, to the south of the old lawns. Plans were prepared for the lawns and terraces, and approved of by Their Royal Highnesses. These lawns required between 6,000 and 7,000 cubic yards of filling and grading to bring the grounds to the proper grade for sodding; 7,613 sup. yards of sod were laid; 1,300 by 5 feet wide of gravel walks were laid through these lawns. A flight of concrete steps 10 feet wide by 5¼ inch rise was built at the upper terrace; two flights of concrete steps, each 5 feet wide by 6¼ inch rise, was built at lower terrace. A flower bed 11 feet wide was prepared around three sides of the lower lawn; a cedar trellis 472 by 10 lineal feet was built along the outer side of these beds for climbing plants and vines.

A new gravel path 1,097 lineal feet by 5 feet wide was graded and laid from Secretary's cottage to connect with concrete walk below tennis court; the sides of walk were graded and levelled up and sodded for an average width of 5 feet on each side.

A macadam path 530 by 13 feet wide was built from the old avenue to McKay Street, to take the place of the plank sidewalk through cricket field. A large quantity of stone filling was put down to bring road up to grade.

Three squares new hardwood was laid in men's sitting room.

Eighty-two feet of concrete border and gutter was laid around three sides of grass plot at south end of workshop. A concrete face 46 by 4 feet by 6 inches was put on face of old stone wall.

The grass tennis court on upper lawn was all dug up and a cinder court laid, rolled and prepared for playing; fifteen 1-inch iron pipe posts with wood rail on top to carry guard net, was set up at north end and portion of sides of court, to prevent balls from being lost.

Fourteen green blinds were made, fitted and painted for windows of living room in garage. Fifteen squares of reshingling roof of gas holder were laid; 300 yards of rock in knoll on north side of main avenue was removed to make the ground level with other portions. The rock from this work was used to build a dry wall on another portion of ground and the depression filled up to grade level.

A flight of concrete steps with landings and cobble stone parapets on each side was built from cliff to level of roadway at ball room.

A roof 20 by 6 feet was built over balcony at coachmen's rooms.

One hundred cedar staves from 5 to 8 feet long, were made and painted. Sundry alterations were made to paint shop; ceiling raised, walls and ceiling sheeted with T. & G. matched stuff. A large sentry box was made and placed at front gate for use of police guard during cold and stormy weather.

Two wardrobes, 7½ by 4½ by 1¾ feet deep, two panel doors each, were made for rooms 7 and 8. A large number of minor alterations and repairs were effected, which cannot be all enumerated here.

Sixteen hundred sup. yards of roadway on Princess Avenue were tarviated; patching and repairs to gravel roofs; repairs made to cement plastering on chimneys of ball room, housekeeper and stable.

A section of heating pipes in basement were covered with asbestos; 3,948 sup. yards of sodding were laid in sundry places about the grounds; 250 lineal feet of 6-inch agricultural tiles were laid to extend waste water drains at front of house; a new enamel sink 20 by 40 inches, with back, was installed in the still room, to replace old sink which was broken.

452 spruce trees, 331 maple trees. 36 elm trees were supplied and planted about the grounds.

All plank sidewalks about grounds were repaired as required. The rinks and slides were repaired where necessary, and put in good order for skating and sliding.

The greenhouses, flower and kitchen gardens, lawns, paths and avenues were maintained in the usual first-rate order. Seeds, plants, bulbs, etc., etc., were supplied.

The snow cleaning from roofs, roads, footpaths, rinks and slides was done and everything kept clean and in good condition throughout the winter. The ice houses were cleaned out and refilled.

All the lighting plant throughout the different buildings was repaired as required and kept in good working order.

(Improvements and repairs on buildings and grounds at Rideau Hall are executed under the supervision of Mr. William Hutchison, Superintendent.)

OWEN SOUND.

PUBLIC BUILDING.

Part of the tile floor was broken, this was taken up and relaid.

A gas heater and two window screens were furnished.

PALMERSTON.

PUBLIC BUILDING.

This building is still in course of construction, as described in report of 1915.

A tower clock has been received from Gillett & Johnston, England, and will be installed as soon as the building is ready.

PEMBROKE.

PUBLIC BUILDING—ALTERATION AND ADDITION.

Alterations made in position of switches controlling lobby lights and outside lights over entrances so as to be independent of the working part of post office.

Restoring the wiring for electric lights on the interior post office fittings.

Two revolving collapsible panic proof doors made of quarter cut oak with base, dado cornice, dado strips, sills, doors and trimmings were installed complete.

Painting and graining the inside windows in the public lobby to match the hardwood fittings and finish.

PEMBROKE.

DRILL HALL.

The construction of this building was described in the report of 1914.

Including additional work to contract, the building is completed.

Four specially made brass screw plugs in the floor traps of the drill hall were installed to prevent sewer water backing into the building.

In the room set apart for shower baths in the basement, two electric drop lights and one switch were provided.

PETERBOROUH.

PUBLIC BUILDING.

A common door was changed into a sliding door and a radiator moved.

PORT ARTHUR.

EXAMINING WAREHOUSE.

The construction of this building, described in the report of 1914, is completed.

Brass goods were supplied for the fittings.

A contract was entered in 10th December, 1915, for the supply and installation of interior fittings.

Contractor—W. J. Trick Co., Limited, Oshawa, Ont.

PORT COLBORNE.

PUBLIC BUILDING.

Changes were made to comply with the new sanitary by-law.

An oak parcel case was furnished for the post office.

PORT HOPE.

PUBLIC BUILDING.

The gas inspection office was removed from the ground to the first floor in order to give the post office more room. Additional radiation was placed in the new offices and all necessary gas and water connections made.

The tile floor in the lobby of the post office was repaired, a hand railing put up at the outside stairway and general repairs made as required.

PRESTON.

PUBLIC BUILDING.

This building, described in the report of 1914, is completed, the interior fittings have been installed.

A large brass sign was furnished and set in position for the Customs department. Door checks furnished, electric light switches changed and a grating was put in the cement sidewalk.

SAULT STE. MARIE.

PUBLIC BUILDING.

Repairing the plaster and retinting the walls of the janitor's suite of five rooms, including bathroom and halls with two coats of muresco, repairing and retinting the ceiling in the post office, and repairing and refinishing the floors of the building with two coats of varnish.

Bleaching and varnishing 1,000 square yards of floors in the halls, stairs, and rooms occupied by the government offices, and twenty-nine letter boxes and seven parcel receivers were painted.

A substantial fire-escape was erected on the west side of the building, extending downward from the second floor, consisting of two platforms and two stairways with guard railings, etc., constructed of riveted iron angle bars and rods.

The heating capacity of the radiators in the Inland Revenue officer's room being insufficient, fourteen new sections were installed.

A sheet-iron burner was constructed in the basement, in connection with the heating plant, to dispose of waste paper, etc.

ST. CATHARINES.

PUBLIC BUILDING.

A new gas testing apparatus was installed in the gas inspector's office.

ST. MARYS.

PUBLIC BUILDING.

A broken section in the hot water furnace was replaced and hot water connections made.

The winter porch was set up, a light installed, several changed and a pole and two pulleys furnished for clothes line.

ST. THOMAS.

PUBLIC BUILDING.

The furniture in the post office was repaired, several post office box glasses furnished and new locks placed on the doors.

SARNIA.

PUBLIC BUILDING.

The copper dome, injured when the flag pole fell, was repaired. Several old post office boxes in screen were removed and twelve new drawers installed.

SEAFORTH.

PUBLIC BUILDING.

The walls in the post office lobby were painted and the doors refinished.
The horticultural society furnished flowers for the beds on the lawn.

SHELBURNE.

PUBLIC BUILDING.

The safe could not be opened and was therefore sent to the makers to be repaired.
The post office bag rack and sorting equipment were set in position.

SIMCOE.

PUBLIC BUILDING.

The building has been wired in conduit for electric light and all necessary fixtures installed and fitted with tungsten lamps. Connection was made to the town drainage system. The outside doors were revarnished and the winter steps repaired.

SMITHS FALLS.

PUBLIC BUILDING.

The work of alterations and additions to building, described in the report of 1915, has been completed.

A contract was entered into 17th May, 1915, for the re-arrangement of post office fittings.

Contractor—Berlin Interior Hardwood Coy.

Brass fittings and grilles with P.O. box fronts were supplied.

The external face of stonework to old portion of building was pointed.

Additional work was executed in attic and a new staircase provided. Placing of suitable picture mouldings on walls of the caretaker's quarters.

Changes and additional electric wiring was done in the working space on the ground floor of the old building, and lights supplied in tower and clock dials.

The yard at side and rear of building was covered with concrete, forming a driveway around building, and a graded gutter was formed to carry off the surface water.

Grooved crossings were made in both sidewalks. A concrete retaining wall with dressed and painted board fence envelopes the rear and a portion of the side boundary. A new concrete sidewalk was laid for the full frontage of Market street.

Building an approach or crossing to line of curb on Market street and extending the gutter across the sidewalk and connecting same with drain. Constructing a concrete curb on Market street.

Excavation of the boulevard space on Market street and refilling with good earth, and sodding the surface.

A tower clock was supplied by Jno. Smith & Sons, Derby, England.

The tower for a four-dial clock installation is constructed over the front gable of wooden framework supported on steel beams, sheeted inside and out, weight boxes, trap doors and ladders built.

External portions of tower, cornice, mouldings and louvres covered with galvanized iron and terminated by a finial.

New partitions erected to form tower room, closets and two bedrooms.

Bath-room placed in a new location, installing of present plumbing fixtures and radiator.

Laying hardwood floor in new bath-room.

Repair plastering and painting.

Cutting opening in wall and fixing new frame and door and altering heating coil.

A level slat platform covering the gravel roof, a clothes reel for caretaker and an iron parapet railing over coping was constructed.

Coal bunkers built and cast iron coal chute provided.

STEELTON.

PUBLIC BUILDING.

The building, which was described in my report of last year, is now completed. A fence was erected around the property; a new driveway made and the grounds graded.

Post office boxes and cases used in the old office were purchased, repaired and installed in the new building.

Hot water connection was made with the range; several doors rehung, and tungsten lamps furnished.

STRATHROY.

PUBLIC BUILDING.

The drain and septic tank were cleaned out; small repairs made to plumbing, and a new rope put in the flag pole.

SUDBURY.

PUBLIC BUILDING.

This building, described in the report of 1914, is completed.

Concrete sidewalks and roadways were laid around the building.

The weight boxes were extended to allow the clock weights to run for eight days and the new work painted.

TILBURY.

PUBLIC BUILDING.

The post office grounds were graded and sown with grass seed. Two door checks furnished.

The floor of the clock tower was repaired with galvanized iron and a new clock weight cable furnished.

TILLSONBURG.

PUBLIC BUILDING.

Four outside bracket lamps were installed and changes made to the interior lighting with flush lock switches placed outside of the post office working space in the public lobby. The outside doors were varnished.

Cable, pulleys, etc., were furnished for the tower clock.

TRENTON.

PUBLIC BUILDING.

A covered porch with open sides was erected at the mail entrance; the conductor pipes, steps, etc., were repaired.

TORONTO.

CUSTOM HOUSE.

The boilers were put in order, to comply with the report of the Fidelity and Casualty Company.

Builders' scaffolding was rented and erected in the long room, which is 45 feet high, to permit of dusting and washing down the walls and ceiling.

A wire screen was erected at the head of the basement stairs to prevent traffic through the basement, and linen fire hose was supplied for the protection of the building.

EXAMINING WAREHOUSE.

Linen hose was furnished for the protection of the building.

POSTAL GARAGE.

A new set of grate bars installed in the furnace and a gas hot water heating apparatus put in.

The curb at the entrance was cut away and reconcreted to permit auto cars to run in easier.

New shelving put up in the postal stores department, and eight fire extinguishers supplied for building.

GENERAL POST OFFICE.

The boilers were retubed and general repairs made as instructed by the Fidelity and Casualty Co.

The receiving platform at the rear of the general post office was enlarged and the yard repaired.

Lumber and hardware were furnished to erect a room for special letters; a new door was put on room 6, the registration department was enlarged, and a new screen set up.

A safe was brought from Arichat, N.S., and placed in this building; another was brought from the old station "G" and placed in the superintendent's office. A safe door and a vault door were opened and combination adjusted by makers.

Wire guard put up to prevent free access to basement, fire hose supplied and a basin connected.

INLAND REVENUE AND ASSISTANT RECEIVER GENERAL'S OFFICE.

A new floor laid in the entrance hall of this building.

The broken plaster repaired and the interior walls and ceilings painted and varnished.

UNION STATION POSTAL STATION "A" AND IMMIGRATION DEPARTMENT.

Postal Station "A"—Rented Premises.

One hundred and twenty-five steel lockers were furnished.

Immigration Department.

The roof, pipes and plastering at the immigration hostel were repaired. A sign was moved and relettered, gratings were put on to form a detention room, and new locks were provided.

This building has now been vacated and the furniture stored.

POSTAL STATION "D".

The kitchen and toilet room were painted.

POSTAL STATION "F" (YONGE AND CHARLES STREETS).

One latch lock was supplied for Railway Commission office.

The Public Works, Clerk of Works' office, was moved into a larger room; painting, graining and lettering was done.

POSTAL STATION "G" (QUEEN STREET EAST) RENTED PREMISES.

(Old building.)—According to the lease the old premises had to be left in the condition in which they were when rented. This work has been done.

POSTAL STATION "G."

A description of this building appeared in the report of 1914 and is now completed. A one-face gable clock supplied by Joyce & Co., England, has been installed and is now running.

A contract was entered into 27th July, 1915, for the supply, erection and finishing of interior post office fittings.

Contractors: The Berlin Interior Hardwood Co., Ltd., Berlin, Ont.

POSTAL STATION "K."

The grounds around this building were graded and good loam spread. A wooden fence was erected at the rear boundary and painted, a neat iron fence was also put up on the three frontages.

A new roof was put on, several rooms rekalsomined, three door checks, step ladder, wheel barrow and small hardware were supplied.

STEAMBOAT INSPECTOR'S DEPARTMENT (RENTED BUILDING).

During the fiscal year, this department was moved to offices in the Federal block. New window shades were furnished.

UXBRIDGE.

PUBLIC BUILDING.

Tungsten lamps were supplied, also lumber, nails and paint to erect locker in basement and cord to put light in same.

WALKERTON.

PUBLIC BUILDING.

The line fence having been partly destroyed by fire, was rebuilt, the department paying one-half the cost.

WALKERVILLE.

PUBLIC BUILDING.

This building described in last year's report, is now completed and occupied by the Post Office Department.

Brass grilles, fittings, lock letter boxes and drawers have been installed.

A contract was awarded 24th September, 1915, for the making, erecting and finishing of interior post office fittings.

Contractors: The Berlin Office and Fixture Co., Ltd., Berlin, Ont.

WELLAND.

PUBLIC BUILDING.

The interior of this building was decorated.

WHITBY.

PUBLIC BUILDING.

This town now has a drainage system and the plumbing and drains in the building have been connected with the street sewer.

The tower clock which had not been keeping good time was taken apart, cleaned, repaired and reset.

An electric bell was installed from the side door to the caretaker's apartments.

WINDSOR.

PUBLIC BUILDING.

The living apartments in this building were in very bad condition: partitions were changed, floors repaired, old store-room cleared out and two lights extended.

An apparatus for supplying hot water throughout the building was installed and the furnace examined and any necessary repairs executed.

New rubbers were put on the revolving doors; arc lamps were put in working order in case of emergency, and minor improvements made to lights.

The letter boxes and parcel receptacles were repainted.

WINGHAM.

PUBLIC BUILDING.

Cheeks were supplied for the front doors and a new cable for the clock weights.

WOODSTOCK.

PUBLIC BUILDING.

The eavetroughs were cleaned out and repaired; a new wash basin installed; three fire extinguishers recharged, and various small repairs executed.

Flowers were planted in the bed and the grounds kept in order.

(Unless otherwise stated in the report, all works of repair and improvement on public buildings in the Province of Ontario were executed under the supervision of Mr. Thos. A. Hastings, Clerk of Works, Toronto, Ont.

PROVINCE OF MANITOBA.

BRANDON.

PUBLIC BUILDING.

Walls throughout the following portions of building were cleaned and the plastering repaired: East and west entrance vestibules, post office lobby, stair hall ground floor, lobby at head of basement stairs main hall, first floor and stairway and hall first floor to second floor. Customs department first floor and annex at south side. Walls and ceilings tinted with Silkstone finish and alabastine. Woodwork cleaned and painted or varnished as required, in two coat work. Put up burlap and capping to walls of stairways, halls and post office lobby and painted same two coats. Storm-sash for windows were cleaned and repainted. Official sign in entrance repainted. Put up door to basement stairs, supplying latch lock and other hardware. Cleaned and sandpapered and varnished the post office screens and desk ledges, also parcel cases, drawers and tables in parcel and express departments. Cleaned glasses in post office screen and refrosted it. Radiators and all piping throughout were refinished in painting or bronzing.

CARMAN.

PUBLIC BUILDING.

Cinder paths were constructed in the open space adjacent to the public building; cement paving, grading, filling and seeding lawns; building gravel paths and the erection of fence, and additional electric lighting for the post office screen were executed.

Plans and specification prepared for work in connection with the installation of clock and bell in the tower.

Work of installing a tower clock commenced.

DAUPHIN.

PUBLIC BUILDING.

Storm doors provided for back of post office, and repairs were made to hot water heating furnace.

EMERSON.

PUBLIC BUILDING.

Renewed grate bars in the hot water heating furnace.

MINNEDOSA.

PUBLIC BUILDING.

Soft water cistern built in basement and provided with supply and waste connections.

Repairs to tower clock and supplying a cylinder lock on door leading to the room in which the clock mechanism is installed.

Awnings provided to windows of the Dominion lands office.

Installation of an outside electric light outlet over the postal street receiver.

The necessary changes were made in the present work, making of extensions and complete electric wiring with fixtures and lamp to the dials of the tower clock.

MORDEN.

PUBLIC BUILDING.

Repairs made to drains connecting building with septic tank, and the inside surface of septic tank was lined with brickwork and thoroughly waterproofed.

Installation of additional radiation in the office of the collector of customs.

The tower was prepared for the reception of the clock machinery and bell by making louvre windows and laying galvanized iron floor in the bell chamber, sheeting the walls and ceilings, building a cabinet for the works and a box enclosing weights, cutting of an opening and providing a door leading from roof space into the clock room, putting in an electric light with switch in the dark space underneath the main roof, electric lighting of clock faces and tower and assembling and fitting clock mechanism.

NEEPAWA.

PUBLIC BUILDING.

New springs for repairs to door checks. Replacing a defective furnace of the heating system by a new furnace, and covering same and the connections with asbestos.

PORTAGE LA PRAIRIE.

PUBLIC BUILDING.

Removal of stamp vendor's office from post office to be stored in basement.

Repairs to plastering in the inland revenue office. The entire building was prepared in conduit for the installing of a new system of electric lighting, and electric fixtures were installed.

ST. BONIFACE.

PUBLIC BUILDING.

A door was put in proper repair; the plumbing work and furnace was repaired and firing tools furnished, and electrical supplies and repairs provided.

SOURIS.

PUBLIC BUILDING.

Installation of new section of wall radiation in customs office.

STONEWALL.

PUBLIC BUILDING.

Altering position of radiator in the vestibule of post office.

A contract was awarded on 1st May, 1915, for the making and installation of interior post office fittings. Contractor: Berlin Interior Hardwood Co., Limited. Berlin, Ontario.

Shades were furnished for the post office windows, and office furniture and lock boxes for the outer post office were purchased, to be used in the new office.

VIRDEN.

PUBLIC BUILDING.

Soft water cistern constructed and connections made for supply and waste pipes.

Electrical work was done for illuminating the clock dials.

A contract was entered into on 6th April, 1915, for the supply and installation of interior post office fittings. Contractors: The Berlin Interior Hardwood Co., Limited. Berlin, Ontario.

WINNIPEG.

CUSTOM HOUSE.

Repairs were made to building, necessitating the use of lumber and hardware Window frames refilled; flag pole repaired and painted; set of rubber strips for revolving door supplied; roof and skylight repaired; plaster work and radiator repaired; furnace overhauled, and new grate bars and sections supplied for same.

EXAMINING WAREHOUSE.

Heating boiler No. 2 was examined by boiler inspector.

Spare armature was installed to freight elevators.

Armature repaired and commutator turned for elevators and elevators repaired.

Heating apparatus and boiler repaired and valve supplied.

Furnished a set of rubber strips for revolving door, and the flag pole was painted.

MAIN POST OFFICE.

Considerable carpenter repairing work done to building. Sliding doors prepared for cupboards in post office inspector's office. A portion of the gallery at rear on main post office floor was extended and partitioned with new glass front.

A new hardwood floor was laid over a portion of concrete floor in basement; alterations were made in door to postmaster's office upstairs; improvements made to the water storage tanks in the roof space; alterations were made in the old system of lighting in post office and new electric lighting fixtures installed; supplied lock sockets and placed them in the post office. Plumbing work was kept in repair; a new basin installed, cold water pipes covered and new connections put on furnace. Two plate glasses put in and two sets of rubber furnished for revolving doors. Elevator cage and doors were thoroughly overhauled, armature of elevator repaired; passenger and freight elevators repaired, and dumb waiter repaired. Two rooms in the caretaker's quarters were kalsomined.

POSTAL STATION "B."

Carpenters' repairs attended to; plumbing work kept in repair; five new grate bars supplied for boiler; flag pole painted, and one set of rubber strips furnished for revolving door.

Shelves and table were supplied to store-room in basement; fan motor and ducts to draught cupboard in laboratory; electric leads and special panel boxes installed; set up air compressor and motor; a pent house was constructed on roof and an exhaust fan and motor were installed.

IMMIGRATION HALLS.

No. 1 Hall.—Plumbing kept in repair; boiler sections renewed; new grates for furnaces supplied; heating system overhauled and flag pole was repaired and painted.

No. 2 Hall.—Porches were repaired; five grate bars for furnaces furnished; jacket heater repaired, and new valve put on boiler and boiler re-rubbered.

No. 3 Hall.—Heating apparatus overhauled, boiler re-rubbered and new valves supplied.

CHAMBER OF COMMERCE BUILDING (RENTED) GAS AND ELECTRIC OFFICES.

A sink was installed and connected up with necessary fittings.

WINNIPEG—NORTH.

ARMOURY BUILDING.

The construction of this building, a description of which appeared in the report of 1915, is completed.

(Unless otherwise stated in the report, all works of repair and improvement on public buildings in the Province of Manitoba were executed under the supervision of Mr. H. E. Matthews, Resident Architect, Winnipeg, Man.)

PROVINCE OF SASKATCHEWAN.

ESTEVAN.

PUBLIC BUILDING.

The town of Estevan having completed their sewage system and water supply mains, this building has had connections made to the town's sewer and water main.

Alterations and additions have been made to the hot water heating system.

The interior of building has been kalsomined and painted and all exterior painted woodwork was repainted in two coats, and varnished work was revarnished.

Minor repairs were made to staircase, outside doors, etc.

GRAVELBOURG.

POST OFFICE.

Screen windows were supplied and fitted; repaired and adjusted doors and windows and supplied and fitted latch lock to front entrance door.

HUMBOLDT.

PUBLIC BUILDING.

Owing to the town of Humboldt having completed their sewage system and water supply main, this building has had connections made to the town's sewer and water main.

The first floor, occupied by the Dominion Lands office, has been rearranged by the changing of store-room into stenographer's office, and by cutting opening between

agent's and general offices, the opening being filled in with frame and glazed partition and fitted with door. Additional radiation has been installed in the general office.

Repairs to walls and woodwork throughout the building were made. A 54-inch dyed burlap dado with moulding was put in the post office lobby, vestibules, staircase, and customs entrance and halls to the Land and Customs offices. All broken plaster was repaired, walls in public offices, halls, and caretaker's quarters were kalsomined and main entrance doors re-varnished. Windows were re-puttied and painted, storm sashes adjusted and re-puttied.

INDIAN HEAD.

FOREST NURSERY STATION.

Supplied one electric bell with an eight point annunciator.

LLOYDMINSTER.

PUBLIC BUILDING.

Minor repairs were made to door frames, doors, windows, broken sash lines and valve of radiator were renewed.

MAPLE CREEK.

PUBLIC BUILDING.

Interior of building was kalsomined and painted, and all exterior wood and iron work painted.

Spiked planks, to prevent loitering, fitted over radiators in public lobby.

Minor repairs done and broken windows were reglazed.

MELFORT.

PUBLIC BUILDING.

A steel fire-escape with egress balconies on first and attic floors has been installed on this building.

New section has been supplied and installed in boiler of heating apparatus, and minor repairs have been made to W. C.'s and lavatory basins.

A new composition roof was put on, as the old roof was found to leak in several places and was otherwise in bad condition. Necessary repairs to plumbing and heating were made, and walls and ceilings in caretaker's quarters which were damaged by the leaking roof were kalsomined.

MOOSEJAW.

NEW PUBLIC BUILDING.

The interior fittings installed in post office and customs department, by the Office Specialty Co., have been completed.

Repairs to windows, doors, etc., have been made, the doors of storm porches at rear have been changed from opening outward to sliding doors on the inside of porches.

A new framed and glazed partition and counter has been installed in the post office inspector's office.

Repairs, alterations and additions have been made to the hot water heating apparatus, to W. C's, urinals, lavatory fittings and electric passenger elevator, and burst water pipes were renewed by new pipes.

NORTH BATTLEFORD.

PUBLIC BUILDING.

A new room was formed in basement by building brick division walls, plastering the interior walls of new room and fitting V joint partition to protect pumping machinery; the room thus formed is for the use of mail clerks attached to the railway mail service.

PRINCE ALBERT.

PUBLIC BUILDING.

Extensive alterations were made to the ground and first floors of this building and general repairs throughout the building. Six separate contracts were awarded for this work.

Alterations to the first floor were completed, and the Customs, Dominion Lands, Forestry Inspector and Fisheries Inspector are now occupying their new offices on this floor.

Alterations to the ground floor will be completed in a few weeks. New fittings for the parcel department of the postal service, which is to occupy premises now nearing completion, are to be provided. New quarters will be ready for occupancy by the Post Office Department when the fittings have been installed.

Changes in the water supply connections and minor repairs to the heating system in the basement were made in addition to general repairs under contract.

The radiator in vault of new Dominion Lands office was removed from wall and fixed to the ceiling.

A ventilator was installed in Dominion Lands vault.

An opening was cut in the partition between the postmaster's private lavatory and Customs examining warehouse and a window inserted.

Shelving for use of the Forestry branch was fitted up in the basement.

A wood and glass partition for stenographers' room was installed in Dominion Lands office.

The entire basement was renovated with limewash, and woodwork in lavatories painted.

Two vaults in Dominion Lands office were cleaned and kalsomined.

REGINA.

DOMINION LANDS OFFICE.

Owing to the vacation of the ground floor by the sheriff's office, rented from the Dominion Government by the Provincial Government of Saskatchewan, this floor was altered by the removal of three brick walls and one stud partition, the brickwork of first floor being carried on steel beams. The space thus gained has been fitted up and occupied by the customs as an express parcels office and examining warehouse. The repairs to electric light fixtures now fitted in the customs quarters, were necessary owing to wear. On the expiration of lease, the rented premises in South Railway street, Regina, were vacated and fittings removed from the rented premises to, and refixed on the ground floor of the Dominion Lands building.

Minor repairs were made to the hot water heating.

INLAND REVENUE DEPARTMENT.

Offices for the Inland Revenue were rented from the J. A. Westman Agencies, situated in the Westman chambers; these offices were fitted with counter, shelving, screen and drawers and electric lighting was installed.

OFFICE FOR INSPECTOR OF WEIGHTS AND MEASURES.

Owing to the formation of a new inspector's district, with headquarters at Regina, the accommodation for the Weights and Measures department in the public building became inadequate, so offices have been rented from the J. A. Westman Agencies, on the ground floor of the Aldon block, on 12th Avenue, Regina. Furniture and fittings have been supplied.

PUBLIC BUILDING.

An additional electric light and switch was supplied and installed in postal stores branch in basement and on main staircase. Additional electric lights have been installed in money order enclosure, over new letter carriers' tables. The electric lighting in stamp accountant's office has been changed by the installing of a 200 Watt nitrogen filled lamp and opal globe.

Two additional lavatory basins were installed in basement and a drinking fountain on ground floor for the use of postal employees.

The money order enclosure was enlarged by the removal and refixing of transverse partition and supplying and installing of new partition to fill in space between old partitions.

One case of shelving for the storage of seed grain samples has been installed in the seed grain offices.

Additional shelving has been installed in the postal stores branch.

General work was done, consisting of repairs to doors, windows, floors, fittings, fixtures and furniture, to W.C.'s, lavatory basins, flushing tanks, hot water heating apparatus, electric light fittings and electric passenger elevator, caretaking and repairs to turret clock, etc.

Street letter boxes and parcel receptacles have been painted.

SASKATOON.

POST OFFICE.

Alterations and additions have been made to the interior post office fittings on the ground floor, by providing increased accommodation and space in the money order department, and for customs parcel post work on first floor by cutting opening into old inland revenue office and providing additional space and fittings.

SUTHERLAND.

FOREST NURSERY STATION.

Supplying and installing 8 foot windmill with 30 foot tower and pump complete for use in emptying storage tank of sewage system.

SWIFT CURRENT.

DOMINION LANDS OFFICE (RENTED PREMISES IN GALBRAITH BLOCK).

Taking down fittings, furniture and safes, removing same from old quarters to new premises in Calbraith block, fixing same, supplying additional fittings required and installing electric lighting.

OLD POST OFFICE (RENTED PREMISES).

Supplying and fitting sun awning over window of money order and registered letter enclosure. Repairs to check springs of front entrance doors and repairs to lavatory basins.

POST OFFICE (RENTED PREMISES IN YAGER BLOCK).

Taking down fittings and furniture in old post office premises, removing to and fitting same in new quarters in Yager block, supplying and fixing new fittings as required and installing electric lighting.

WEYBURN.

PUBLIC BUILDING.

Repairs were made to windows, doors and frames, staircase, floors, roofs, W.C.'s, urinals and lavatory fittings.

An outside staircase has been erected to give access to the armoury on the first floor.

Interior of building was kalsomined and painted throughout and all wood and iron work of exterior painted and varnished.

YORKTON.

PUBLIC BUILDING.

Polished steel plates installed at money order wickets instead of plate glass.

Minor repairs have been made to doors, windows, locks, supplying and fitting new door locks, renewing broken sash lines, taking out broken section door and frame of boiler of hot water heating apparatus and installing new.

A contract was entered into 17th May, 1915, for the re-arangement of post office *public buildings in the Province of Saskatchewan were executed under the supervision of Mr. W. T. Mollard, Clerk of Works, Regina.*).

ALBERTA.

BASSANO.

PUBLIC BUILDING.

This building, described in the report of 1915, is completed.

A contract was entered into 5th January, 1916, for the supply and installation of interior post office fittings. Contractors—Berlin Interior Hardwood Co.

Brass grilles and key lock boxes supplied for post office fixtures.

CALGARY.

CUSTOMS EXAMINING WAREHOUSE.

The building, described in the report of 1915, has been completed.

A contract was entered into on the 16th March, 1914, for the supply and installation of one electric passenger and three electric freight elevators.

Contractors—The Turnbull Elevator Mfg. Co., Toronto.

A contract was awarded 6th April, 1915, for the making and erection of interior fittings in Customs examining warehouse.

Contractors—The Berlin Interior Hardwood Co., Ltd., Berlin, Ont.

A contract was entered into 22nd November, 1915, for the manufacture and setting up of Customs postal parcel fittings in the Customs examining warehouse.

Contractors—The Riverside Lumber Co., Limited.

The electric feed lines were extended to pent house over elevator shaft.

An ash hoist was provided and installed.

Concrete approaches to driveways were built to the Eleventh avenue and First street, East, at vehicle entrance on south and east sides of building.

A steel fire-escape was constructed on the north side of the building with platforms and stairways from the first floor to the third floor, and with counter-balanced telescoped drop ladder from first floor to ground level.

An oak directory board was provided and lettered, enumerating all offices in the building.

EDMONTON.

DRILL HALL.

The construction of this building, described in report of 1915, is completed.

Control switches to operate electric ventilating fans were provided and installed.

Steel channels and tie rods to strengthen the brickwork of boiler setting supplied and the brickwork repaired.

Cementing floor and repairing chimney.

Pumping and bailing of water made necessary through sewer connection not being installed.

LETHBRIDGE.

NEW PUBLIC BUILDING.

The interior post office fittings and other alterations were made on the first floor to accommodate the customs offices.

Some slight alterations were made on the second floor, which is occupied by the Dominion Lands Office.

A tower clock and bell, made by W. F. Evans & Sons, England, was supplied. The tower was prepared for the reception of the bell and clock machinery and the dial openings were made waterproof.

OLD PUBLIC BUILDING.

The old public building has been used by the Militia Department as a school for officers, and is now in use as a military hospital.

MEDICINE HAT.

PUBLIC BUILDING.

Alterations and Additions.

The work described in the report of 1915 has been completed.

A contract was entered into July 29th, 1915, for the supply and installation of interior post office fittings.

Contractors—Berlin Office and Fixture Co., Berlin, Ont.

Brass grilles for P.O. fittings and brass plate furnished.

The following minor works were executed:—

Rebuilding fittings, etc., additional work on P.O. interior fixtures, taking out old pipe radiator; connecting up gas testing machine, and building a bridge over gutter.

BRITISH COLUMBIA.

CUMBERLAND.

PUBLIC BUILDING.

Plumbing repairs executed to toilets; hat and coat hooks supplied; heating furnace was repaired, and lock repaired on post office door.

DUNCAN.

PUBLIC BUILDING.

Furnace flues and chimneys cleaned; hot water pipes covered with asbestos; overflow pipe from septic tank extended for proper sanitation. Galvanized iron on roof repaired, also three toilets.

GONZALES HILL.

OBSERVATORY.

Dome, deck and walls of hatch on roof were painted; storm door supplied and installed to main entrance; hatchway above roof relined outside and replastered inside to prevent leaks, and furnace flues were cleaned.

NANAIMO.

PUBLIC BUILDING.

Stone wall drilled and railing erected and the whole painted. Repairs made to ladies and caretaker's lavatories; water main altered; repairs made to general toilet and wash basin in asst. caretaker's room; repairs made to customs collector's toilet. Mail wagon in use at railway station, painted and lettered; windows and doors repaired; one transom light repaired; kitchen and toilet in caretaker's quarters painted.

PORT ALBERNI.

PUBLIC BUILDING.

Grading and gravelling side and rear of grounds; cement walk laid at front and side of building, and drain laid to keep surface water from entering basement.

Tower clock supplied, installed and fitted up. Supplied and installed one pressure reducer on water main. Painted and fitted up counter at customs; moved safe and furniture from customs and telegraph offices to new building; took down temporary fittings and stored same in basement; repainted two doors in Customs Department; a letter receiver was installed and wired and fixed five electric lamps.

SAANICH MOUNTAIN.

DOMINION OBSERVATORY.

An agreement was entered into between the department and the British Columbia Electric Railway Company, whereby they would erect a transmission line from their tram car line, which passes the observatory, and the department to pay $2,000 towards the cost. The line has been constructed and the money has been paid.

It was also agreed that there being a spring on the property of the British Columbia Electric Railway Company, producing four and one-half gallons per minute of which the department secured possession; the spring has been enclosed with cement concrete and wooden cover, three-inch galvanized pipes have been laid therefrom to a concrete cistern and covered with tongued and grooved sheeting, put on double, supported by 4 by 4-inch joists at 24-inch centres. A pumphouse was erected adjacent thereto, of ballon frame construction, sheeted outside and inside with boards clapboarded outside and V-sheeting inside, floor of cement concrete, walls constructed of 2- by 4-inch stud at 24-inch centres; roof of similar construction, covered with 1-inch boards and shingled with wood shingles 4½ inches to the weather, with one thickness of 12 ounce tar felt between; a four panel door on each side and two windows on one side and the whole painted three coats inside and outside. A ten horse-power electric motor has been provided. A well was bored to a depth of 95 feet, 25 feet in earth and

70 feet in rock, which produces about 3 gallons per minute; the pipes were extended to the reservoir cistern, connected thereto, and gate valves were provided at certain places on the line of the pipe.

A contract was entered into June 24, 1915, for the construction of an observatory building; the size is 66 feet diameter. The foundation walls and the two large piers with arch between are of cement concrete. The walls are of steel columns, connected by steel girts and sheeted inside and outside with "Toncan metal."

The columns and girts and part of the sheeting is in position on the outside and the dome is being placed in position. Plans and specifications prepared by this department.

C. H. Topp, Clerk of Works.

Contractors, Messrs. McAlpine-Robertson Construction Company for foundation and steel work to springing and dome.

Contractors for dome, etc., the Warner & Swasey Co., of Cleveland, Ohio.

OBSERVER'S RESIDENCE.

A contract was entered into September 25, 1915, for the construction of a cottage covering an area of about 40 feet by 40 feet, set on concrete walls, covered on the outside with clapboards for a portion of the height and the balance with shingles. The roof is also shingled. There is a basement, ground and first floors and the basement is built of cement concrete and is allotted to the heating furnace, fuel and storage, etc. Plans and specifications prepared by this department.

Clerk of Works, C. H. Topp.

Contractors, Parker & Grace, Victoria, B.C.

UNION BAY.

PUBLIC BUILDING.

The well was sunk to a depth of 25 feet.

VANCOUVER.

PUBLIC BUILDING.

Repairs were made to buzzer in postmaster's office; floor of freight elevator was repaired; door and door check at elevator door entrance supplied; elevator brakes adjusted; dumb elevator repaired and freight and passenger elevators repaired from time to time.

Additional electric light with switches was installed in office of collector of customs and in long room, pendant switches installed in superintendent of buildings' office, clock in post office adjusted and new batteries supplied, repairs made to floor in despatch office, cement floor on fourth storey repaired, broken cement at wagon delivery entrance taken up and new cement laid down, sidewalk and prism lights repaired, repairs made to ladder and handrail leading to clock tower, shelves to telegraph office extended, walls drilled and fire extinguishers fitted up throughout building, leaking tank repaired, clock in customs department repaired, glass replaced in window of superintendent of buildings' office, sash repaired and glass put in window dead letter office, repairs and beading of doors, and notice signs made for despatch office, blinds repaired and rehung in customs record room, cupboards and shelves in despatch office repaired; parcel chute in sorting office repaired, various leaks and defects in water main in building traced and repaired, catch basin under basement floor removed and diverted waste pipe to same into main drains. Partition was erected for store room in post office, glass panel in postmaster's office replaced, wickets on main floor of post office repaired, doors eased, locks and hinges of men's lavatory repaired, wicket in general office eased, win-

dow sash in long room eased and same rehung, windows at various parts of building cased and rehung, new lock supplied and fitted for railway mail service. Letter racks in main post office and despatch office repaired, meter cupboard in despatch office repaired, elevator sorting cables repaired and braces put on same in general office, 377 yards of Wilton carpet in Inland Revenue office cleaned and relaid, combination lock and safe in customs long room adjusted, two despatch boxes for railway mail service lettered, lettering "Collector of Customs" and "Registration of Shipping," placed on door; stamp signs made and lettered for main floor, paper chute repaired. Screen erected enclosing mail hoist at ground floor, repairs made to hall hoist cage and repairs made to hat and coat rails main floor of post office.

OLD POST OFFICE.

Repairs made to leaking joint of toilet, tank and toilet on third floor repaired, repairs made to fire hose, leaking fire and heating pipes emptied and repaired, roof at rear leaking was repaired. Grates in tank heater reset, drain in alley at rear cleared, fire extinguishers supplied and installed. Tap and meter in testing branch of Inland Revenue repaired, nickel plated air valves supplied and fitted on radiators, taps in gas and electricity branch of Inland Revenue department repaired. Letter plates on gas and electricity office, Inland Revenue department, placed in position at entrance door, door and lock of Harbour Commissioner's office repaired and windows eased. Openings for doors cut and doors hung, cupboards cut in two and fixed in Harbour Commissioner's office. Worn out tank valve renewed. Fittings in assay office repaired, W.C. supply pipes and tank valve fittings in boiler room repaired, main roof of building and lean-to roof repaired, skylights at rear covered over with lumber to protect from snow, and roofs cleared of snow and gutters of ice and dirt.

EXAMINING WAREHOUSE.

Ceiling radiators repaired; cement ceiling drilled for supplementary and hanging stays; girder shoe on elevator, cement floor and split pipe repaired, and repairs made to passenger elevator dash pot and car switch. Fire extinguishers supplied and installed throughout building. Sewer cleared of stoppage; W.C. in basement repaired; slop sink and wash basin on second and third floors repaired. Marble cut out around stop cocks and fitted in panel again. Flag pole erected, flag repaired. Reglazing three lights of glass; easing doors and rehanging windows; repaired locks and handles of doors; three cupboards made and installed; repairs were made to trucks and truck irons, and hot water boiler was repaired.

POSTAL STATION "A"—C. P. R. STATION.

Changing wiring for switch and cluster of lights; taking out mullion window and brick work; setting frame and hanging part of double doors; building slat partition and putting up shelving, and making and installing slat racks on floor for mail sacks.

POSTAL STATION "B"—249 HASTINGS STREET.

Repairing plumbing in pure food branch, directory board painted and lettered; fitting up laboratories for Inland Revenue department; putting in additional shelving; cutting through ceiling and roof for ventilators; making cabinet, sliding doors, one chest of 23 drawers, one cabinet, tables, draw board, erecting partitions and doors; kalsomining walls, painting and varnishing woodwork. Store room in basement fitted up; three sinks supplied and installed with all necessary connections; supplied and fitted in five bed gutters on tables with waste and vent pipes. Three radiators moved and connected up in new positions. Gas supply pipe from company's main put into

basement and branches run to various places. Fire extiguishers supplied and installed throughout building. Shelves were placed in fruit inspector's office; a defective W.C. bowl was replaced by a new one, and doors and windows were eased.

POSTAL STATION "C"—NEW 15TH AVE. AND MAIN ST.

The construction of this building, which was described in the report of 1915, is completed. A contract was entered into on the 29th November, 1915, for the supply and installation of post office fittings and the work is now being proceeded with.

Contractors: Berlin Office and Fixture Co., Berlin, Ontario.

Latch lock supplied and put on door; sorting tables, bags, racks and pigeon-hole cases set up; fire extinguishers supplied and put up throughout the building; clock supplied and installed in tower; partition, etc., erected and several rooms made for caretaker's quarters on third floor.

Shades were supplied for various windows; 48 pairs of special brackets supplied; one office flat desk, one swivel chair, two high stools, one table for stamping tellers, all supplied to the Post Office department.

IMMIGRATION DETENTION BUILDING.

This building was described in reports of 1914 and 1915 and has now been completed and occupied. A vulcan over rest range supplied and connected up in position; special oval tee pipes supplied; repairs made to elevator motors; renewed damaged gutters, caused by heavy snow fall and frost; space behind downpipes filled in with cement mortar; wrought iron grilles supplied and installed in two deporting rooms; wrought iron grilles supplied for heaters in baggage room; fourteen locks supplied and fitted for detention room doors; one Chinese cook stove supplied; six locks supplied and fitted for dumb waiter to prevent any one escaping by that outlet. Slates were repaired; several signs painted and fixed. Sixteen fire extinguishers supplied and installed in suitable positions throughout the building. Four wrought iron grilles and collapsible gate supplied aud installed. One hinged grille and frame; three sliding grilles for windows opening on fire-escapes supplied and installed; ten grilles for end windows furnished and erected; reducing valve on water main supplied and installed; an oil burning plant was installed, including an oil tank with a pipe line connected thereto from the Imperial Company's oil tanks.

VICTORIA.

PUBLIC BUILDING.

The springs on floor, hinges of several doors were repaired, new hinges supplied and installed; new brass sash chains supplied and put on windows; toilet tank repaired; hammer cut-out switch on elevator repaired and new coil supplied; reserve water tank which had been leaking, annunciator bell on passenger elevator, and one of the basins in old portion of building taken down and repaired. Two new door checks supplied and installed; track made and supplied for running truck into post office vault; fire extinguishers supplied and installed in suitable position in the building. Repairs and keys made to lock boxes and drawers for post office, also latch locks and keys, where and when required, for various offices in the building. Screen and racks erected for newspapers and magazines in post office department, consisting of V-jointed partitions, nine feet high, three rows of large pigeon-holes with wicket into lobby to accommodate public without going inside to the main floor for newspapers, bundles, etc. New fittings for customs postal parcels and express parcels installed on first floor for Customs department; these fittings are of the most modern kind. The racks are made of birch throughout with strong wire backs and alleys between covered with same materials; doors are placed on each end of the alley and electric light in conduit over-

head. The screen is of oak of very beautiful design with wickets for all branches at intervals. Two cashier cages, one for customs and the other for express parcel branches. Bracket lights with condulet leads supplied and installed to every wicket and cage. A wide lobby was provided for public, with desks. The old wooden floor in public lobby on ground floor has been taken up and a modern tile floor with border all the way around was laid down. New hardwood floor laid on old portion of post office floor. The stamp vendor's office in the lobby has been enlarged. The telegraph office which occupied a position in the main entrance lobby, and office of district superintendent and stores room removed to old post office building. Additional equipment of lighter tubing to enable cleaners to carry same up ladders to reach high ceilings supplied for vacuum cleaner.

Temporary fixtures for customs parcels and express office used in rented quarters in Belmont building removed and stored in basement of public building, in case of requirement elsewhere. Additional electric light facilities supplied and installed on post office main floor for sorting and despatching in the newspaper, parcel room, registry and money order offices.

Shelving supplied and fitted up in record room, and manifest case repaired and altered in Customs department. Shelving supplied and fitted up in surveyor and locker rooms, Customs Department; cashier's cage in long room altered; a three-phase electric service installed; new condulet service installed for stamping machine post office department; post office screen in public lobby moved back to give greater width for public drops and wickets rearranged.

The addition to the public building which was in course of construction during 1914-15-16, has now been completed and gives a splendidly equipped building for the conducting of public business.

OLD POST OFFICE.

Night latches fitted to doors of radiotelegraph branch of Naval department; lean-to roof at rear of building which has been leaking was repaired; one enamel wash basin supplied and installed and line of waste pipe from sink and basin altered to provide better drainage.

Clearing snow from roof, replacing glass broken by weight of snow in photographer's studio, also repairing wooden portion of skylight.

One of the stores in the building became vacant, it was altered and fitted up for a telegraph office, district superintendent's office, battery and store rooms, with spaces and desks in front of counters for public. Walls painted and papered; signs painted on walls and windows, etc., making a first-class and modern office.

IMMIGRATION DETENTION BUILDING.

Heating pipes and broken fire pot repaired and boiler recovered with asbestos. Toilet and taps repaired; screen door and four window screens supplied and fitted up, and spring hinge and door checks repaired.

OLD CUSTOM HOUSE.

Locks, doors, springs and handles repaired; window and doors eased; door made and hung under stairs to form locker with lock, etc. Four flues cleaned and furnace and radiators and toilet and taps were repaired. Wiring for and installing fuse cutouts. A severe snow storm and frost caused damage to waste pipe and cast iron pipe which were repaired.

WILLIAM MEAD.

QUARANTINE STATION.

One mullion window (30 lights) supplied and installed in superintendent's residence. Two sets of twin cylinders for four cylinder engine fitted with valves and

springs supplied; four pistons complete for above. Two skylights supplied and fitted up at superintendent's residence.

Porcelain bath supplied and installed, with hot and cold water connections, in isolation hospital building. Chinese cook-house constructed and fitted up with two steam jacketted rice cooking boilers, 50 gallon capacity, fitted with G.M. steam exhaust, safety valves, etc., and one set welded wrought steel, two compartment ovens, one above the other. Each compartment fitted with C.I. steam-tight doors, safety bridge and hand fastenings, perforated vegetable trays, G.M steam and exhaust safety valves. The building is of cement concrete walls with cement concrete floors and slate roof. Four latrine buildings were constructed of cement concrete, walls and floors with cement concrete, roofs slated, all fitted with porcelain automatic flush closets with water service and sewer, to sea at low water, in each case.

(Unless otherwise stated in the report, all works of repair and improvement on public buildings in the Province of British Columbia were executed under the supervision of Mr. Wm. Henderson, residence architect, Victoria, B.C.)

STATEMENT OF LEASES

OF

BUILDINGS AND GROUNDS OCCUPIED BY THE GOVERNMENT

AND

PAID FOR BY THE DEPARTMENT OF PUBLIC WORKS

BY

J. G. TAYLOR

CHIEF ARCHITECT'S OFFICE,
OTTAWA, July 22, 1916.

E. L. HORWOOD, Esq.,
Chief Architect,
Ottawa.

DEAR SIR,—Annexed please find details of arrangements under which rents are paid by this department for buildings and sites, also index to names of lessors.

The list shows that 279 places are under lease, a reduction of 10 as compared with last year's list. The total rents to be paid this year amounted to $624,649.46 as under, a reduction of $22,032.45 as compared with last year's list.

—	We pay this year.	Decrease since last year.	Increase since last year.
In Calgary	$ 36,937 30	$ 3,464 85	
" Ottawa	411,847 92		$11,478 7
" Montreal	28,937 08	18,363 34	
" Quebec	6,687 50	2,152 50	
" Saskatoon	9,640 20	4,503 00	
" Toronto	26,884 93		9,439 93
" Vancouver	12,108 63	2,041 00	
" Winnipeg	17,895 16	115 00	
" other places	73,710 74	12,311 40	
Total rents as above stated	$624,649 46		
		$42,951 09	$20,918 64

Total Decrease as above stated $22,032 45

Yours truly,

J. G. TAYLOR.

INDEX TO NAMES OF LESSORS.

Allan, W. A., and Fleming, S. H.	Ottawa	No. 104
Annable, John Ed.	Nelson, B.C.	99
Ashbury College Co., Ltd.	Ottawa	105
Aubin, A. A.	Sturgeon Falls, Ont.	222
Bank of Toronto.	Kingston, Ont.	69
Bank of Toronto.	London, Ont.	76
Banque Nationale.	Ottawa	143
Banque Nationale.	"	144
Bate Realty Corporation, Sir H. N.	"	106
" " "	"	107
" " "	"	108
Battleford, Town of.	Battleford.	7
Bawlf, Estate N.	Winnipeg, Man.	266
" "	"	267
" "	"	265
" "	"	268
Beardmore & Co.	Montreal, P.Q.	87
Belanger, A.	Montmagny, P.Q.	86
Bell Telephone Co.	Ottawa.	109
Bergeron, J. S.	Quebec, P.Q.	181
" "	"	180
Berlin Rink and Auditorium Co., Ltd.	Berlin, Ont.	9
Berlinguet, F. X.	Three Rivers, P.Q.	228
Birks & Sons, Ltd., Henry.	Ottawa, Ont.	110
Birks, Wm. M., J. H. Birks and G. W. Birks	Vancouver, B.C.	244
Blanche, Cordelia, Curatrix to A. Dalbec, her husband.	Montreal, P.Q.	88
Blackburn, Russell.	Ottawa, Ont.	110a
Blackburn, R. L. & R.	"	111
" "	"	112
" "	"	113
" "	"	114
" "	"	115
" "	"	116
" "	"	117
Blenheim, Town of.	Blenheim, Ont.	13
Blow, T. H.	Calgary, Alta.	16
"	"	17
Booth, C. Jackson.	Ottawa.	134
Booth, C. Jackson, and Holbrook, J. A. D.	"	118
" "	"	119
Boyd, Wm. James.	Winnipeg, Man.	269
Boyd, W. J.	"	270
"	"	271
Brady, Wm. A.	Reston, Man.	193
Brennan, J. C.	Ottawa.	120
"	"	121
"	"	122
Brown, Julius A.	Vancouver, B.C.	245
Bryson Realty Co., Ltd.	Ottawa.	123
" " "	"	124
Burns & Co., Ltd., P.	Calgary, Alta.	18
Buxton, H. H.	Deloraine, Man.	37
Bytown & Suburb Land Co., Ltd.	Ottawa.	125
Cameron, John H. and Johnstone, Annie M.	Saskatoon, Sask.	212
Campbell, Allan.	Prince Rupert, B.C.	177
Canada Life Assurance Co., Ltd.	Calgary, Alta.	19
" " "	"	20
" " "	"	21
Canadian Bank of Commerce.	Revelstoke, B.C.	194
" " "	"	195
Canadian City & Town Properties of Saskatoon.	Saskatoon, Sask.	213
Canadian Government Railways.	Tignish, P.E.I.	230
Canadian May-Oatway Fire Alarms Co., Ltd.	Winnipeg, Man.	272
Canadian Northern Railway.	Edmonton, Alta.	39
" "	North Battleford, Sask.	101
" "	Vermilion, Alta.	254

Canadian Pacific Railway	Calgary, Alta	No. 22
" "	Kerrobert, Sask	68
" "	Montreal, P.Q.	89
" "	Nomininge, P.Q.	100
" "	North Portal, Sask	102
" "	Vancouver, B.C.	248
" "	"	247
" "	"	246
" "	Victoria, B.C.	255
" "	Wilkie, Sask.	263
" "	Winnipeg, Man.	273
Capital Storage Co., Ltd.	Ottawa	126
" "	"	127
Carling, Mrs. Eva C.	"	128
Chatelaine, Alexandre	L'Orignal, Ont.	78
Clark, E. W.	Ottawa	129
Cliche, Odilon	St. Joseph de Beauce, P.Q.	208
Compton, Village of	Compton, P.Q.	36
Confederation Life Association	Toronto, Ont.	231
Cooper, C. W. & W. A.	Winnipeg, Man.	274
Costello, Miss E.	Calgary, Alta.	23
Delorme, Estate of Simeon	Montreal, P.Q.	91
Dennis Realty Corporation	Halifax, N.S.	52
" " "	"	53
" " "	"	54
" " "	"	51
Dionne, Thos.	Cacouna, P.Q.	15
Dominion Coal Co.	Glace Bay, C.B.	45
Dominion Fish & Fruit, Ltd.	Quebec, P.Q.	182
Dorchester Realties, Ltd.	Montreal, P.Q.	92
" "	"	93
Duford & Charleson	Ottawa	130
Eastern Canada Savings & Loan Co.	Halifax, N.S.	55
Eaton Co., Ltd., T.	Toronto, Ont.	239
Entwistle, Village of	Entwistle, Alta.	42
Finnie, D. M. and Morris, W. D.	Ottawa	131
Fish Co., I. C.	Big River	11
Fletcher, J and McLean, A. S.	Grand Prairie, Alta.	47
Fortier, T. H. H.	Annapolis Royal, N.S.	2
Foster, Dr. A. L.	Ottawa	132
Fraser Bros. and McRoberts	Pincher Creek, Alta.	173
Fredericks, Chas. W.	Peace River Crossing, Alta.	171
Galbraith, Archibald	Swift Current, Sask.	224
Garland, John J.	Portage la Prairie, Man.	174
Garland, Son & Co., John M.	Ottawa	133
Gaudry, L. H.	Quebec, P.Q.	183
Geddes & Sheffield, agts. for Geo. B Ryan, et al.	Calgary, Alta.	24
George & Stewart	Peace River Crossing, Alta.	172
Germain, Mrs. M. M.	Quebec, P.Q.	184
Giroux, J. O.	Grouard, Alta.	49
Governor and Company of Adventurers of England trading into Hudson Bay	Athabaska, Alta.	b
Graham, G. A. and Horne, J. T.	Fort William, Ont.	44
Grand Trunk Railway Co.	Berlin, Ont.	10
" "	Toronto, Ont.	234
" "	"	235
" "	"	233
" "	Victoriaville, P.Q.	257
Grand Trunk Pacific Railway Co.	Prince Rupert, B.C.	176
Grand Trunk Pacific Development Co.	Unity, Sask.	243
" " "	Viking, Alta.	258
Grand Trunk Pacific Town and Development Co., Ltd.	Wainwright, Alta.	261
Green, Mary C.	Rocky Mountain, Alta.	198
Hamilton, City of	Hamilton, Ont.	57
Hamilton, Mrs. Robert	Vancouver	250
" "	"	251
Hanna, J. E.	Ottawa	135
Heintzmann Co.	Windsor, Ont.	264
Herald Building Co., Ltd.	Prince Albert, Sask.	175
Herchemer Committee, Helen	Kingston, Ont.	70
Hills, Jas.	Alberni, B.C.	1
Hope, James	Ottawa	137
Hope & Son, James	"	136
Huckvale, Walter and Hooper, S. T.	Medicine Hat, Alta.	82
Imperial Canadian Trust Co.	Saskatoon, Sask.	216
" " "	" "	215
" " "	" "	214

SESSIONAL PAPER No. 19

Imperial Realty Co., Ltd.	Ottawa	No. 138
Independent Securities, Ltd.	Kamloops, B.C.	66
" "	"	67
" "	"	65
Inland Express Co., Ltd.	Ashcroft, B.C.	4
Intercolonial Railway	Hampton, N.B.	59
Irvine & Co., J. A.	Calgary, Alta.	25
Jack, John	Quebec, P.Q.	185
Jakes, Geo. L.	Merrickville, Ont.	84
Jackson, Clark & Johns?	Cobourg, Ont.	35
Jacobs, J. A.	Cobalt, Ont.	34
Jarman, Frank	Ottawa	139
Johnson, David	St. Stephen, N.B.	210
Journal Printing Co., Ltd.	Ottawa	140
" " "	"	141
" " "	"	142
Knights of Columbus Council, 1001	Three Rivers, P.Q.	229
Labelle, Patrick	Ottawa	145
"	"	146
La Compagnie Artistique et Financière d'Asbestos, Ltd.	Asbestos, P.Q.	3
Lamb, J. B. & W. A.	Ottawa	147
Larochelle, Alfred	Black Lake, P.Q.	12
Lavallee, J. H.	St. Felix de Valois, P.Q.	201
Lavoie, Mrs. Odile, widow of J. O. Normand	Maisonneuve, P.Q.	79
Le Comptoir Mobilier Franco-Canadien	Montreal, P.Q.	90
Leduc, J. Lionel	Beauharnois, P.Q.	8
Levesque, Etienne	Mont Joli, P.Q.	85
" Thos. J.	Clair, N.B.	33
Lyall & Sons Construction Co., Ltd., P.	Longue Point, P.Q.	77
McConnell, Wm.	Lansdowne, Ont.	74
McDermott, A. J. C.	Victoria, B.C.	256
McEvoy, Ed.	Hudson Bay Junction, Sask.	60
McFarlane, Wm.	Transcona, Man.	241
McKenzie & Mann	Gravelbourg, Sask.	48
McKenzie, Mann Co., Ltd.	Wadena, Sask.	260
McLennan, J. S.	Sydney, N.S.	227
" "	"	226
McMillan, Andrew and Costain, Wm.	Toronto, Ont.	236
McNeill & Stewart	Ottawa	150
Major, A. J.	"	151
Martin & Co., W. H.	"	152
Mathewson, Mrs. C.	Kingston, Ont.	71
Melita Lodge No. 120, I.O.O.F.	Melita, Man.	83
Moisan, Mrs. P. L.	St. Georges de Beauce, P.Q.	202
Molsons Bank	Ottawa	155
Montreal, City of	Montreal, P.Q.	94
" "	"	95
Moosejaw, City of	Moosejaw, Sask.	98
Mullin, Alexander	Toronto	237
Nesbitt, Sam	Brighton, Ont.	14
New Brunswick Telephone Co.	St. John, N.B.	207
" "	Fairville, N.B.	43
Newton, Fred. Young	Roblin, Man.	197
Nichols, Geo. E. E. and Lynch, M. Edith L.	Digby, N.S.	38
Northern British Columbia Development Co.	Prince Rupert, B.C.	179
" " " "	" "	178
North West Commercial Travellers Association	Calgary, Alta.	26
Notre Dame Investment Co., Ltd.	Winnipeg, Man.	275
O'Connor Bros.	Huntingdon, P.Q.	61
Osment, Mrs. Loretta A.	Indian Head, Sask.	62
Ostell, J. Thos.	Montreal, P.Q.	96
Ottawa Building Co.	Ottawa	156
"	"	157
" Ltd.	"	158
Ottawa Investment Co. Ltd.	"	159
Ottawa Masonic Temple Co., Ltd	"	153
" " " "	"	154
Ottawa Terminals Railway Co.	"	160
Page Printing & Binding Co.	Sherbrooke, P.Q.	219
Paris, Mrs. O.	Quebec, P.Q.	186
Parsons, L. C.	Maple Creek, Sask.	80
Patterson, J. O.	Grand Prairie, Alta.	46
Pearson, Mrs. E. A.	Ottawa	161
Pelletier, Jos.	Edmundston, N.B.	41
Perrin, Hector	Verdun, P.Q.	253
Pheasey, Geo. and Batson, Chas. C.	Edmonton, Alta.	40

Polly, Thos. J.	Kingston, Ont.	No. 72
Preville, Mrs. Jos. Louis	Joliette, P.Q.	64
Prud'homme, T.	Montreal, P.Q.	97
Quebec Buildings, Ltd.	Ottawa	162
Quebec Central Railway	Sherbrooke, P.Q.	220
Quebec Railway Light, Heat and Power Co.	Quebec, P.Q.	187
Rea Co., Ltd., A. E.	Ottawa	163
Revillion Bros.	Athabaska, Alta.	6
Rice, Thos. C.	Weymouth, N.S.	262
Rideau Club	Ottawa	164
Ridgetown, Town of	Ridgetown, Ont.	196
Robb, J., Manager Bank of Hamilton	Salmon Arm, B.C.	211
Robinson, Hiram	Ottawa	165
Roblin, Sir R. P.	Winnipeg, Man.	276
Rosin House Hotel Co.	Toronto, Ont.	238
Rossborough, R. S., Trustee Dr. Jas. Walker Estate	Halifax, N.S.	56
Rothwell, Benjamin E.	Swan River, Man.	223
Royal Bank of Canada	Charlottetown, P.E.I	32
" " "	Ottawa	166
" " "	"	167
Ste. Anne de Bellevue, Municipality of	Ste. Anne de Bellevue	199
St. Eustache, Village of	St. Eustache, P.Q.	200
St. John, City of	St. John, N.B.	204
" "	"	206
" "	"	205
St. Rose, P.Q., Village of	St. Rose, P. Q.	209
Shewan, A. P.	Indian Head, Sask.	63
Shoal Lake, Town of	Shoal Lake, Man.	221
Simpson Co., Ltd., Robt.	Regina, Sask.	190
" "	Toronto, Ont.	239
Sinclair, Wm.	Le Pas, Man.	75
Slater Estate	Ottawa	168
Slater, Robt. Nicholas	"	169
Southam, William Jas.	Calgary, Alta.	27
Stewart, Wm.	Crouard, Alta.	50
Stroud, W. R.	Ottawa	170
Swales, Clara Jane	Hamilton, Ont.	58
Tardival, J. Paul	Quebec, P.Q.	188
Thomas, R. C.	Calgary, Alta.	28
" "	"	29
" "	"	30
" "	"	31
Thompson, Chester	Saskatoon, Sask.	217
Toronto Terminals Ry. Co.	Toronto, Ont.	240
Tremblay, Dame Gubladine	Lacolle, P.Q.	73
Trois Pistoles, Town of	Trois Pistoles, P.Q.	212
Turcotte, J. Baptiste	St. Jean de Matha, P.Q.	203
Two Macs, Ltd.	Ottawa	149
"	"	148
Union Bank	Winnipeg, Man.	279
Vancouver, City of	Vancouver, B.C.	249
Virden School District	Virden, Man.	259
Westman Agency, Ltd., J. A.	Regina, Sask.	191
" " "	"	192
White, Miss Margaret	Quebec, P.Q.	189
Wilson Bros.	Saskatoon, Sask.	218
Winch & Co., Ltd., R. V.	Vancouver, B.C.	252
Winnipeg Joint Terminals	Winnipeg, Man.	278
Wylie, D. J.	Maple Creek, Sask.	81
Yager, Jas A.	Swift Current, Sask.	225
Young Mens' Christian Association	North Sydney, N.S.	103

LEASES.

No. 1.—Alberni, B.C... .. .. Part of building erected on Lot 1, Block 11, in town of Alberni, B.C.
Occupied by.. .. .. Post Office.
Lessors.. .. .. James Hills.
Term expires.. .. .. April 1, 1918.
Rent.. .. .. $180 per year—$100 by postmaster, $80 by Government.
Lessor pays all taxes including water rates.

No. 2.—Annapolis Royal, N.S... .. .. Two rooms on ground floor of lessors' building on St. George street.
Occupied by.. .. .. Inspector of British Immigrant children and of Immigration Agencies for Maritime Provinces.
Lessor.. .. .. T. H. H. Fortier.
Term expires.. .. .. 1st September, 1917.
Rent.. .. .. $15 per month.
Lessor pays all taxes including water, heating, lighting and cleaning.

No. 3.—Asbestos, P.Q... .. .. One room on southeast side of lessor's building 20x22 feet.
Occupied by.. .. .. Post Office.
Lessor.. .. .. La Compagnie Artistique et Financiere d'Asbestos, Ltd.
Term expires.. .. .. Year to year. Lessee has privilege to end lease at end of any year by giving notice on or before 5th January.
Rent.. .. .. $300—$200 by government and $100 by postmaster.
Lessor pays all taxes, heating, lighting and snow cleaning.

No. 4.—Ashcroft, B.C... .. .. Storeroom in building owned by James Haddock, of Ashcroft, B.C.
Occupied by.. .. .. Storerooom for mail.
Lessor.. .. .. Inland Express Co., Ltd.
Term expires.. .. .. Monthly. This is a sub-lease.
Rent.. .. .. $25 per month.
Lessor pays heat, light and caretaking.

No. 5.—Athabaska, Alta... .. .. Piece of land fronting on Athabaska river, 100 by 150 feet.
Occupied by.. .. .. Immigration hall
Lessor.. .. .. The Governor and Company of Adventurers of England trading into Hudson bay.
Term expires.. .. .. June 1, 1918.
Rent.. .. .. $1 per annum.
Lessors stipulate that no lumber shall be cut.

No. 6.—Athabaska, Alta... .. .. Space in warehouse.
Occupied by.. .. .. Post Office mail storage.
Lessor.. .. .. Revillion Bros.
Term expires.. .. .. At one month's notice.
Rent.. .. .. $5 per month.

No. 7.—Battleford.. .. .. Lots 41 and 42 South Twenty-four street, west of Central avenue.
Occupied by.. .. .. Immigration.
Lessor.. .. .. Town of Battleford.
Term expires.. .. .. April 19, 1919.
Rent.. .. .. Amount of municipal taxes.

No. 8.—Beauharnois.. .. .. Two rooms and one toilet room on west side of lessors building, southeast corner of Ellice and Brown streets.
Occupied by.. .. .. Post Office.
Lessor.. .. .. J. Lionel Leduc.
Term expires.. .. .. May 1, 1917.
Rent.. .. .. $350 per annum, of which Public Works Department pays $225 and Post Office Department pays $125.
Lessor pays all taxes, street sprinking, heating, removal of snow and lighting.

No. 9.—Berlin, Ont... .. .. Store in rink and auditorium block on Queen st. south, with use of basement—840 square feet on ground floor.
Occupied by.. .. .. Exam. warehouse.
Lessor.. .. .. Berlin Rink and Auditorium Co., Ltd.
Term expires.. .. .. 15th February, 1918.
Rent.. .. .. $55 a month.
Lessor.. .. .. Pays all taxes (except water).
Lessee to pay lessor $17.50 quarterly for heating.

No. 10.—Berlin, Ont... .. .. Part of station building, having an area of 138 square feet.
Occupied by.. .. .. Sorting and stamping of letters and postal matter mailed at Berlin station, etc.
Lessor.. .. .. Grand Trunk Railway Company.
Term expires.. .. .. Year to year from April 1, 1914.
Rent.. .. .. $50 per annum.
Lessors pay heating and lighting.

No. 11.—Big River. .. ..
Occupied by.. .. .. Officers of Sturgeon River and Big River, Forest Reserves, Department of Interior.
Lessor.. .. .. I. C. Fish Co.
Rent.. .. .. $10 per month.
Term expires.. .. .. Month to month from May 3, 1915.

No. 12.—Black Lake, P.Q... .. .. Part of premises owned by lessor, 22 by 26 feet northwest side Notre Dame street.
Occupied by.. .. .. Post Office.
Lessor.. .. .. Alfred Larochelle.
Term expires.. .. .. Year to year.
Rent.. .. .. $300 per annum of which Government pays $150 and Postmaster $150.
Lessor pays taxes, heat and light and removes snow from roof.

No. 13.—Blenheim, Ont... .. .. Portion of townhall building.
Occupied by.. .. .. Post Office.
Lessor.. .. .. Town of Blenheim.
Term expires.. .. .. Year to year.
Rent.. .. .. $350 per annum of which Government pays $200 and Postmaster $150.
Lessors pay taxes, water, heating, lighting and cleaning.

No. 14.—Brighton, Ont... .. ..
Occupied by.. .. .. Post Office.
Lessor.. .. .. Sam. Nesbitt, M.P.P.
Term expires.. .. .. 4 years from date of occupation.
Rent.. .. .. $100 by D.P.W., remainder by postmaster.
It is distinctly understood that the Dominion Government shall not be called upon to pay anything further in this connection in taxes, water, heat, light and janitor service.

No. 15.—Cacouna, P.Q... .. ..
Occupied by.. .. .. Post Office.
Lessor.. .. .. Thomas Dionne.
Term expires.. .. .. Year to year.
Rent.. .. .. $100 per annum, of which Government pays $50 and Postmaster $50.
Lessor pays taxes, removal of snow, heat, light and cleaning.

No. 16.—Calgary, Alta... .. .. 6,715 square feet in Blow building at 85 cents; also premises in basement, 660 square feet at 25 cents per square foot.
Occupied by.. .. .. Commissiner of Irrigation.
Lessor.. .. .. T. H. Blow—W. R. Blow & Co., Attorneys.
Term expires.. .. .. March 31, 1916. In course of arrangement for another year.
Rent.. .. .. $5,872.75 per annum.
Lessor pays taxes, water and heat.

No. 17.—Calgary, Alta... .. .. 5,974 sq. feet on ground flour of Blow building, 8th Ave. West; 85c. per sq. ft.
Occupied by.. .. .. Lands.
Lessor.. .. .. Dr. T. H. Blow.
Term.. .. .. From May 1, 1916 (arrangements not yet completed).
Rent.. .. .. $5,077.90 per annum.

SESSIONAL PAPER No. 19

No. 18.—Calgary, Alta.. .. .. Room 503, Burns block, corner 8th Avenue; and Second street E., Central on Fifth Avenue—12 by 18 feet.
Occupied by.. .. .. S. S. Slipper, of Geological Survey of Mines.
Lessor.. .. .. P. Burns & Co., Ltd.
Term expires.. .. .. Month to month.
Rent.. .. .. $40 per month.
Lessor pays water, heating and lighting, and provides janitor service.

No. 19.—Calgary, Alta.. .. .. Rooms 51 to 54, Canada Life building and half vault.
Occupied by.. .. .. Inland Revenue.
Lessor.. .. .. Canada Life Assurance Co., Ltd.
Term expires.. .. .. January 1, 1919, with privilege of vacating any time after 3 years on giving three months' notice in writing.
Rent.. .. .. $315 per month.
Lessor pays taxes, water, heating, janitor and elevator service.
Lessee pays lighting.

No. 20.—Calgary, Alta.. .. .. Rooms 41 to 44 inclusive in Canada Life building.
Occupied by.. .. .. Post Office Inspector.
Lessor.. .. .. Canada Life Assurance Co., Ltd.
Term expires.. .. .. January 1, 1919, with privilege of removing any time after 3 years on giving three months' notice in writing.
Rent.. .. .. $315 per month.
Lessor pays taxes, water, heating, janitor and elevator service.
Lessee pays lighting.

No. 21.—Calgary, Alta.. .. .. Rooms 55 to 58, Canada Life building.
Occupied by.. .. .. Railway Mail.
Lessor.. .. .. Canada Life Assurance Co., Ltd.
Term expires.. .. .. January 1, 1919, with privilege of vacanting any time after 3 years on giving three months' notice in writing.
Rent.. .. .. $222 per month.
Lessor pays taxes, water, heating, janitor and elevator service.
Lessee pays lighting.

No. 22.—Calgary, Alta.. .. .. Parcel of land and premises situate, lying and being in Calgary, specified on plan attached to lease.
Occupied by.. .. .. Immigration Hall site.
Lessor.. .. .. C. P. Ry.
Term expires.. .. .. March 1, 1927, but may be terminated at any time by lessor on one month's notice.
Rent.. .. .. $10 per annum.
Lessee pays all taxes.

No. 23.—Calgary, Alta.. .. ..
Occupied by.. .. .. Weights and Measures.
Lessor.. .. .. Miss E. Costello.
Term expires.. .. .. From month to month.
Rent.. .. .. $30 per month.
Lessor pays for heating.

No. 24.—Calgary, Alta.. .. .. Lots 17, 18, 19 and 20 block 52, section 15, plan "A," 100 feet on 7th avenue by 130 feet on 2nd street east.
Occupied by.. .. .. Site—temporary building for Post Office.
Lessors.. .. .. George B. Ryan, Helen J. Raymond, John Moody, Geo. McAllister, Walter Sharpe, Henry Knight, Malcolm D. Geddes and Herbert T. Sheffield, Geddes & Sheffield, Collecting agents.
Term expires.. .. .. October 23, 1918.
Rent.. .. .. $7,500 per annum.
Lessors pay taxes and water.

No. 25.—Calgary, Alta.. .. .. Rooms 412 and 413 Leeson-Lineham block.
Occupied by.. .. .. Lands Office.
Lessor.. .. .. J. A. Irvine & Co.
Term expires.. .. .. From month to month.
Rent.. .. .. $40 per month.

No. 26.—*Calgary, Alta*.. .. .. Premises in Northwest Commercial Travellers' Association building, Centre street, between Sixth and Seventh avenues.
Occupied by.. .. .. Seeds Branch, Agriculture.
Lessor.. .. .. Northwest Commercial Travellers Association.
Term expires.. .. .. Month to month from November 1, 1915.
Rent.. .. .. $1,347.25 per annum.
Lessors pay all taxes, including water rates, heat and elevator service.

No. 27.—*Calgary, Alta*.. .. .. Rooms 310 and 311 on 3rd floor of Herald building.
Occupied by.. .. .. Railway Commission.
Lessor.. .. .. William James Southam.
Term expires.. .. .. April 1, 1917.
Rent.. .. .. $105 per month.
Lessor pay all taxes, water, heating, window cleaning, janitor and elevator service.

No. 28.—*Calgary, Alta*.. .. .. Office in Cadogan block, corner 8th avenue and 2nd street.
Occupied by.. .. .. Inspector of gas and electricity.
Lessor.. .. .. R. C. Thomas.
Term expires.. .. .. Monthly.
Rent.. .. .. $50 per month.
Lessor pays heating.

No. 29.—*Calgary Alta*.. .. .. Six rooms on second floor Thomas block, Nos. 7, 8, 9, 10, 11 and 12, 2,053⅝ square feet at 85 cents per square foot.
Occupied by.. .. .. Topographical Survey.
Lessor.. .. .. R. C. Thomas.
Term expires.. .. .. From month to month, one month's notice in writing to be given by lessors.
Rent.. .. .. $145.45 per month.
Lessor pays taxes, water, heat and provides elevator service.

No. 30.—*Calgary, Alta*.. .. .. Rooms 28, 29, 30 and 31 in second floor of Thomas block.
Occupied by.. .. .. Forestry Department.
Lessor.. .. .. R. C. Thomas.
Term expires.. .. .. Month to month.
Rent.. .. .. $130 per month.
Lessor pays taxes, water, heating and gives free use of elevator.
Lessee pays for cleaning.

No. 31.—*Calgary, Alta*.. .. .. Room 27 in Thomas block, Calgary.
Occupied by.. .. .. Additional accommodation for District Inspector of Forest Reserves.
Lessor.. .. .. R. C. Thomas.
Term expires.. .. .. Month to month.
Rent.. .. .. $35 per month.
Lessor pays taxes, water, heating, cleans corridors, supplies elevator service and general lavatory service.

No. 32.—*Charlottetown, P.E.I*.. .. .. Two rooms in Royal Bank building.
Occupied by.. .. .. Publicity agent, Immigration Department.
Lessor.. .. .. Royal Bank of Canada.
Term expires.. .. .. No lease, we are tenants from year to year.
Rent.. .. .. $175 per annum.

No. 33.—*Clair, N.B*.. .. .. Office in lessor's house.
Occupied by.. .. .. Immigration Agent.
Lessor.. .. .. Thos. J. Levesque.
Term expires.. .. .. Monthly.
Rent.. .. .. $10 per month.

No. 34.—*Cobalt, Ont*.. .. .. Space in Royal Exchange building, 60 feet frontage with a depth of 33 feet, Prospect avenue.
Occupied by.. .. .. Post Office.
Lessor.. .. .. J. A. Jacobs.
Term expires.. .. .. January 30, 1918.
Rent.. .. .. $2,000 per annum.
Lessor pays taxes, water and heating.

SESSIONAL PAPER No. 19

No. 35.—Cobourg, Ont... Two rooms in property of lessors, north side King street.
Occupied by.. Immigration Inspector.
Lessors.. John Gill Jackson and Lisgar Clark and O. G. Johns.
Term expires.. October 1, 1916.
Rent.. $170 per annum.
Lessors pay taxes and water.

No. 36.—Compton, Que... Large room on west side of ground floor of the town hall.
Occupied by.. Post Office.
Lessor.. Village of Compton.
Term expires.. December 2, 1924.
Rent.. $150 per annum, of which Government pays $110 and Postmaster $40.
Lessor pays all taxes, water, heating and lighting.

No. 37.—Deloraine, Man...
Occupied by.. Immigration.
Lessor.. H. H. Buxton.
Term expires.. April 1, 1917.
Rent.. $300 per annum.

No. 38.—Digby, N.S... Privilege of laying sewer across lands on east side Water street from Dominion building.
Occupied by.. As above.
Lessors... Geo. E. E. Nichols and M. Edith L. Lynch.
Rent.. $1 per annum.

No. 39.—Edmonton, Alta .. Part of Canadian Northern Railway station grounds.
Occupied by.. Immigration hall site.
Lessor.. Canadian Northern Railway.
Term expires.. On one month's notice from either lessor or lessees.
Rent.. $1 per annum.
Lessee pays taxes and water.

No. 40.—Edmonton, Alta... Two stores on ground floor, including one vault store room, gents' lavatory and cloak room, together with additional space in basement of Alexander block.
Occupied by.. Lands.
Lessor.. George Pheasey and Charles Colbert Batson.
Term expires.. July 1, 1918.
Rent.. $550 per month.
Lessors pay taxes, water and heat.
Lessee pays for light.

No. 41.—Edmundston, N.B... Two rooms, one 18 x 12 feet and the other 12 x 12 feet in lessor's building, one of these rooms being furnished with a bed complete.
Occupied by.. Immigration.
Lessor.. Joseph Pelletier.
Term expires.. March 1, 1917.
Rent.. $144 per year.
Lessor pays all taxes, water, and heat.

No. 42.—Entwistle, Alta... Lots Nos. 20, 21 and 22 in block No. 4.
Occupied by.. Immigration hall site.
Lessor.. Village of Entwistle.
Term expires.. March 12, 1919.
Rent.. $3 per annum.
Lessee pays all taxes and rates.

No. *43.—Fairville, N.B.*.. Wire for clock service.
Lessor.. N. B. Telephone Company.
Rent.. $40 per annum.

No. 44.—Fort William, Ont... Suite of rooms with vault accommodation in lessors' building.. Floor area about 1,250 square feet.
Occupied by.. District Engineer.
Lessors.. G. A. Graham and J. T. Horne.
Term expires.. August 1, 1918.
Rent.. $75 per month.
Lessors pay taxes, water and heating.

No. 45.—*Glace Bay, Cape Breton, N.S.*.. .. .. .. Lot of land for construction of protection wall at Glace Bay beach.
Lessor.. .. .. Dominion Coal Company.
Term expires.. .. .. January 30, 1928, with option to renew upon request of lessee 6 months previous to expiry for a like period of 20 years.
Rent.. .. .. $1 per annum.

No. 46.—*Grande Prairie, Alta*.. .. .. Parts of building on lots 31 and 32 block 4.
Occupied by.. .. .. Immigration.
Lessor.. .. .. J. O. Patterson.
Term expires.. .. .. January 1, 1917.
Rent.. .. .. $65 per month.

No. 47.—*Grande Prairie, Alta*.. .. .. Premises for Lands Office.
Lessors.. .. .. J. Fletcher and A. S. McLean.
Term expires.. .. .. Monthly.
Rent.. .. .. $20 per month.

No. 48.—*Gravelbourg, Sask*.. .. .. Lots 7, 8, 9, 10, block 14.
Occupied by.. .. .. Immigration hall.
Lessor.. .. .. McKenzie & Mann.
Term expires.. .. .. January 1, 1918. Premises to be vacated on 30 days notice by lessors at any time.
Rent.. .. .. $1 per annum.
Lessee pays taxes.

No. 49.—*Grouard, Alta*.. .. .. One long room owned by lessor.
Occupied by.. .. .. Immigration hall.
Lessor.. .. .. J. O. Giroux.
Term expires.. .. .. June 1, 1917.
Rent.. .. .. $25 per month.

No. 50.—*Grouard, Alta*.. .. .. Frame building 22′ 6″ x 50′.
Occupied by.. .. .. Lands office.
Lessor.. .. .. Wm. Stewart, Manager Royal Bank of Canada, Peace River Crossing, Alta.
Term expires.. .. .. Monthly.
Rent.. .. .. $60 per month.
Lessee pays water, heating and lighting.

No. 51.—*Halifax, N.S*.. .. .. Top floor Dennis building.
Occupied by.. .. .. Militia and Defence.
Lessor.. .. .. Dennis Realty Corporation.
Term expires.. .. .. October 1, 1918, with option to lessee to terminate lease at end of 3rd or 4th year from October 1, 1913, on 6 months previous notice.
Rent.. .. .. $3,112 per annum.
Lessors pay taxes, water, insurance, heating and provide elevator service.

No. 52.—*Halifax, N.S*.. .. .. Fifth floor Dennis building corner Granville and George streets,
Occupied by.. .. .. Militia and Defence.
Lessor.. .. .. Dennis Realty Corporation.
Term expires.. .. .. October 1, 1918, with option to lessee to terminate at end of 3rd and 4th year from October 1, 1913, on 6 months previous notice.
Rent.. .. .. $3,112 per annum.
Lessors pay taxes, water, insurance, heating and provide elevator service.

No. 53—*Halifax, N.S*.. .. .. Two rooms, including use of vault in Dennis building.
Occupied by.. .. .. J. P. Edwards in connection with Business War Tax Act.
Lessor.. .. .. Dennis Realty Corporation.
Term expires.. .. .. Month to month from June 7, 1916.
Rent.. .. .. $30.20 per month.

No. 54—*Halifax, N.S*.. .. .. 2,225 square feet and use of vault on fifth floor of Dennis building.
Occupied by.. .. .. Headquarters staff of Militia District No. 6.
Lessor.. .. .. Dennis Realty Corporation.
Term expires.. .. .. October 1, 1918.
Rent.. .. .. $2,225 per year.
Lessors pay all taxes, water, insurance, heat, elevator and janitor service.

No. 55.—*Halifax, N.S.*.. Office and vault in Metropole building.
Occupied by.. W. C. Milner, eastern representative of the Archives.
Lessor.. Eastern Canada Savings and Loan Company, Metropole building, Halifax, N.S.
Term expires.. Monthly.
Rent.. $18.75 per month.

No. 56.—*Halifax, N.S.*.. 245, 247 and 249 Hollis street.
Occupied by.. Customs Express and warehouse.
Lessor.. Estate of Dr. James Walker represented by R. S. Rossborough, trustee, Halifax, N.S.
Term expires.. April 30, 1917.
Rent.. $1,200 per annum.
Lessor pays taxes.
Lessee pays water.

No. 57.—*Hamilton, Ont.*.. Area rents. Coal bin, Main street. Weights and Measures and Gas Inspection. Portion of area John street used by Post Office for storage of ashes.
Rental.. The rate for this area seems to be dependent on the assessment, if any, for the year.
Lessor.. City of Hamilton.

No. 58.—*Hamilton, Ont.*.. Ground floor of building on south-east corner of Kinrade avenue and Barton street, also cellar accommodation and rear entrance.
Occupied by.. Post Office station "B."
Lessor.. Clara Jane Swales.
Term expires.. November 1, 1916.
Rent.. $1,200 per annum.
Lessor pays taxes, water, heat and repairs to heating apparatus, also cleaning.

No. 59.—*Hampton, N.B.*.. Right and privilege to connect with I. C. Ry. water pipe at Hampton and draw water therefrom for purposes of post office at Hampton.
Lessor.. I. C. Ry.
Term expires.. During pleasure of lessor.
Rent.. $25 per annum.
Lessee pays all taxes.

No. 60.—*Hudson Bay Junction, Sask.*.. House situated on lot 17, block 1.
Occupied by.. Office and headquarters of Pasquia Forest Reserve.
Lessor.. Ed. McEvoy, Star City, Sask.
Term expires.. Month to month from April 7, 1916.
Rent.. $12 per month.
Lessee pays heat, light and janitor service.

No. 61.—*Huntingdon, P.Q.*.. Space on ground floor in front part of O'Connor building, and vault.
Occupied by.. Post Office.
Lessors.. O'Connor Bros.
Term expires.. April 1, 1921.
Rent.. $900 per year, $225 by postmaster and $675 by Government.
Lessors pay all taxes, heating, lighting and supply vault accommodation; cleaning by postmaster.

No. 62.—*Indian Head, Sask.*.. The whole of the second floor of a 2-storey brick building on Main street and 650 square feet on the first floor of the adjoining building.
Occupied by.. Forestry Branch, Interior Department.
Lessor.. Mrs. Loretta Ann Osment.
Term expires.. September 1, 1916.
Rent.. $43 per month.
Lessor pays all taxes, including water.

No. 63.—*Indian Head, Sask.*.. Part of ground floor of a solid brick building on east side of Grand ave.
Occupied by.. Chief Inspector of Fisheries.
Lessor.. A. P. Shewan.
Term expires.. Month to month.
Rent.. $13 per month.
Lessor pays taxes, water and heat.
Lessee pays light and caretaking.

No. 64.—Joliette, P.Q. .. .. Part of first flat of house east corner of St. Viateur and Place Bourget.
Occupied by.. .. .. Weights and Measures.
Lessor (executor of).. .. .. Mrs. Joseph Louis Preville, widow.
Term expires.. .. .. January 22, 1918.
Rent.. .. .. $264 per annum.
Lessor pays taxes, removes snow and pays heat, light and cleaning.

No. 65.—Kamloops, B.C. .. .. Part of ground floor 60 by 20 feet and two vaults 15 feet 6 inches by 8 feet and 6 feet 8 inches in lessor's building, north-east corner Fourth avenue and Seymour street, Western Canada Trust building.
Occupied by.. .. .. Dominion Lands and Crown Timber Agency.
Lessor.. .. .. Independent Securities, Ltd.
Term expires.. .. .. September 1, 1917.
Rent.. .. .. $125 per month.
Lessors pay taxes, water, heat and cleaning.

No. 66.—Kamloops, B.C. .. .. Rooms, 11, 12, 13, 14 and 15 in Acadia building.
Occupied by.. .. .. Forestry Branch, Interior Department.
Lessor.. .. .. Independent Securities, Ltd.
Term expires.. .. .. July 15, 1916.
Rent.. .. .. $960 per year.
Lessors pay all taxes, water, heat, light and provide janitor service.

No. 67.—Kamloops, B.C. .. .. Rooms 19, 20, 21 and 22 in Acadia building.
Occupied by.. .. .. Divisional Hydrographic Engineer.
Lessor.. .. .. Independent Securities, Ltd.
Term expires.. .. .. Month to month.
Rent.. .. .. $62.50 per month.
Lessors pay all taxes, water, heat, light and provide janitor service.

No. 68.—Kerrobert, Sask. .. .. Site Immigration hall.
Lessor.. .. .. C. P. Railway.
Term expires.. .. .. May 1, 1912, and afterwards from year to year, lease may be terminated by lessor by one month's notice, and such notice may be given by posting same on the premises.
Rent.. .. .. $1 per year.
Lessee pays taxes.

No. 69.—Kingston, Ont. .. .. Four rooms in second flat, facing on King street, Nos. 1, 2, 3 and 4 (vault accommodation included) in the Bank of Toronto building, and part of lot 96 in city of Kingston.
Occupied by.. .. .. E. H. Pense and staff in connection with harbour improvements.
Lessor.. .. .. Bank of Toronto.
Term expires.. .. .. October 31, 1916.
Rent.. .. .. $360 per annum. Rental paid charged monthly to harbour improvements.
Lessors pay water, heat and cleaning of halls.

No. 70.—Kingston, Ont. .. .. Premises on Market square, ground floor of tenement No. 8, the ground floor and second floor of tenement No. 10, and the whole of tenements Nos. 12 and 14 street number, forming part of lot letter I in Ontario ward, Kingston.
Occupied by.. .. .. Federal Public Service, Inland Revenue, Customs, Marine and Fisheries, and Railways and Canals.
Lessors.. .. .. Representatives of Gildersleeve estate, Kingston, represented by Henry Herchmer Gildersleeve and Helen Emily Herchmer, of Belleville, committee of the person and estate of Laurence Kirby Herchmer, a person of unsound mind.
Term expires.. .. .. July 1, 1928, with option to renew for 21 years on same conditions.
Rent.. .. .. $1,762 per annum.
Lessee provides fireman, light and fuel and water and pays taxes, street sprinkling and snow cleaning.

SESSIONAL PAPER No. 19

No. 71.—*Kingston, Ont.*.. Front room, ground floor, of house 3, Johnston street.
Occupied by.. Immigration agent.
Lessor.. Mrs. Catherine Mathewson.
Term expires.. May 31, 1917.
Rent.. $180 per annum.
Lessee to keep up fences.

No. 72.—*Kingston, Ont.*.. Premises situate on part of lots 294 and 295, west Bagot street, frontage 134 feet, depth 119 feet, south side of Brock and Clarence streets, with brick building, stables and sheds.
Occupied by.. Additional stores for Militia Department.
Lessor.. Thos. J. Pelly, present address 414 8th street W., Calgary.
Term expires.. May 1, 1919.
Rent.. $1,000 per annum.
Lessor pays ground rent, taxes and water.

No. 73.—*Lacolle, P.Q.*.. Office S.E. corner of Church and St. Bernard streets.
Occupied by.. Immigration Inspector.
Lessor.. Dame Gubladine Tremblay.
Term expires.. Year to year.
Rent.. $96 per annum.

No. 74.—*Landsdowne, Ont.*.. Ground floor of tenement of building owned by lessor, north-east corner of Prince street and Grand Trunk avenue.
Occupied by.. Post Office.
Lessor.. Wm. McConnell.
Term expires.. December 1, 1918.
Rent.. $150 per annum of which Government pays $25 and postmaster $125.
Lessor pays taxes.

No. 75.—*Le Pas, Manitoba*.. Store on east side of Edwards avenue adjoining corner of Edward avenue and Second street.
Occupied by.. Post Office.
Lessor.. Wm. Sinclair, M.D.
Term expires.. Month to month.
Rent.. $600 per annum.
Lessor pays all taxes.

No. 76.—*London, Ont.*.. Roor on first floor, divided into three offices, Bank of Toronto Chambers. Floor area, 486 square feet.
Occupied by.. Mr. Geo. Tambling, for business profits war tax.
Lessor.. Bank of Toronto.
Term expires.. June 15, 1917.
Rent.. $200 per annum.
Lessor pays water and heating.
Lessee pays lighting and janitor service.

No. 77.—*Longue Point, P.Q.*.. A portion of ground adjoining lessors shops at National Bridge Co., Longue Point.
Occupied by.. Storage of materials in connection with the construction of new examining warehouse, Montreal.
Lessor.. P. Lyall & Sons Construction Co., Ltd.
Term expires.. "During such time as premises are required by the lessee for said purpose" of storage.
Rent.. $1 for period "of which receipt is hereby acknowledged."

No. 78.—*L'Orignal, Ont.*.. West half of two-story brick building north side King street on lot letter "D" in village of L'Orignal and a strip of land 21 feet in width by 30 feet in depth at the rear of building.
Occupied by.. Post Office.
Lessor.. Alexandre Chatelaine.
Term expires.. January 1, 1919.
Rent.. $250 per annum, half of which is paid by Government and half by Postmaster.
Lessor pays taxes, postmaster pays for water, heat, light and cleaning.

No. 79.—*Maisonneuve, P.Q.*.. Portion of lessor's building, 116 Letourneux st.
Occupied by.. Postal Station "M."
Lessor.. Mrs. Odile Lavoie, wife of J. O. Normand.
Term expires.. May 1, 1917.
Rent.. $25 per month.
Lessor pays all taxes except water rates.

No. 80.—*Maple Creek, Sask.*.. First floor of lessor's building corner facing the railway depot.
Occupied by.. Lands.
Lessor.. L. C. Parsons, Cowansville, P.Q.
Term expires.. March 1, 1918.
Rent.. $1,200 per annum.
Lessor pays all taxes and provides water service and drainage.

No. 81.—*Maple Creek, Sask.*.. Room in building adjoining Lands office.
Occupied by.. Ranch Inspector.
Lessor.. D. J. Wylie.
Term expires.. Monthly.
Rent.. $15 per month.

No. 82.—*Medicine Hat, Alta.*.. Office 306, owned by lessors in office building on lots 23 and 24, block 14, plan 1491.
Occupied by.. Immigration.
Lessor.. Walter Huckvale and Sidney Tom Hooper.
Term expires.. June 1, 1917.
Rent.. $28 per month.
Lessor pays janitor.

No. 83.—*Melita, Man.*.. About 880 square feet of lessor's building.
Occupied by.. Post Office.
Lessor.. Melita Lodge No. 20, I.O.O.F.
Term expires.. March 1, 1917, with option to lessee to continue from year to year unless notice in writing is given by either party two months previous to the end of any year.
Rent.. $266 per annum, $103 by postmaster, $163 by Government.
Lessors pay all taxes, including water. The lessee shall in no way contribute to the cost of heating the premises.

No. 84.—*Merrickville, Ont.*.. Portion of Jakes block erected in part on lot 5 on Main street.
Occupied by.. Post office.
Lessor.. Geo. L. Jakes.
Term expires.. January 1, 1917.
Rent.. $350 per annum of which Government pays $220 and postmaster $150.
Lessor pays all taxes, including water, also heat, light and cleaning.

No. 85.—*Mont Joli, P.Q.*.. One storey wooden building on principal street.
Occupied by.. Post Office.
Lessor.. Etienne Levesque.
Term expires.. January 15, 1918, option to lessee to continue from year to year by giving three months' notice.
Rent.. $300 per year, $240 by D.P.W., $60 by P.O.D.
Lessor pays all taxes.

No. 86.—*Montmagny, P.Q.*.. Lessors' building, near I.C.R. station.
Occupied by.. Storage for machinery, tools, etc., owned by Department of Public Works.
Lessor.. A. Belanger.
Term expires.. November 1, 1916.
Rent.. $50 per annum.
Lessor pays all taxes.

No. 87.—*Montreal, P.Q.*.. Room No. 20 on first floor of Beardmore bldg.
Occupied by.. Supervising Engineer, Public Works Dept.
Lessor.. Beardmore & Company.
Term expires.. Month to month.
Rent.. $800 per annum.
Lessor pays taxes and heating and provides elevator service.
Lessee pays water.

No. 88.—Montreal, P.Q... .. .. Northwest part of a store No. 101 St. Catherine street east.
Occupied by.. .. .. Postal station "N."
Lessor.. .. .. Cordelia Blache curatrix to Alfred Dalbeck, advocate, her husband represented herein by Jas. A. Dupuy.
Term expires.. .. .. May 1, 1917.
Rent.. .. .. $1,680 per annum.
Lessor pays all taxes.
Lessee pays water and heats whole building.

No. 89.—Montreal, P.Q... .. .. Office southwest corner of haggage room of Windsor street station.
Occupied by.. .. .. Mail room.
Lessor.. .. .. Canadian Pacific Railway.
Term expires.. .. .. November 1, 1908, or lease may be terminated by lessor at any time by mailing (postage paid) at post office in Montreal, a notice addressed to the Minister of Public Works, Ottawa, naming a day at least three months from the mailing thereof.
Rent.. .. .. $213 per annum.
Lessor pays for heating.

No. 90.—Montreal, P.Q... .. .. Building on Craig street, opposite Central Post Office, being numbers 117 and 119 and known as "Old Herald Building."
Occupied by.. .. .. Post Office.
Lessor.. .. .. Le Comptoir Mobilier Franco-Canadien.
Term expires.. .. .. November 23, 1917, with option to renew for 2 years on same terms on 3 months' notice in writing.
Rent.. .. .. $8,000 per annum and 10 per cent of cost of new floors during term of present lease.
Lessors pay all taxes.
Lessee pays water rates, heating, lighting, janitor service and cleaning and repairs elevator.

No. 91.—Montreal, P.Q... .. .. Brick and stone building on St. Paul street, Nos. 272 and 274, extending through to Nos. 113 and 115 on Commissioners street.
Occupied by.. .. .. Military stores and offices
Lessor.. .. .. Estate of Simeon Delorme
Term expires.. .. .. May 1, 1917.
Rent.. .. .. $3,000 per annum.
Lessee pays general taxes.

No. 92.—Montreal, P.Q... .. .. Portions on the fifth and ninth floors of Shaughnessey building corner of McGill and St. Paul streets.
Occupied by.. .. .. District Engineer Public Works Department and Wreck Commissioners of Department of Marine and Fisheries.
Lessors... .. .. Dorchester Realties, Ltd.
Term expires.. .. .. May 1, 1919.
Rent.. .. .. $7,327.37 per annum equals $1 a square foot and 10 per cent on cost of partitions.
Lessors pay taxes, insurance, heating and provide elevator service.
Lessee pays for water.

No. 93.—Montreal, P.Q... .. .. About one-half of the eighth floor of Shaughnessey building, corner McGill and St. Paul streets.
Occupied by.. .. .. Marine and Fisheries.
Lessor.. .. .. Dorchester Realties, Limited.
Term expires.. .. .. May 1, 1919.
Rent.. .. .. $4,420.05 per annum equals $1 per square foot and 10 per cent on cost of partitions.
Lessors pay taxes, insurance, heating and provide elevator service and attendants thereof.
Lessee pays for water.

No. 94.—Montreal, P.Q... .. .. Canopy over sidewalk, Carslake building, 133·20 square feet.
Occupied by.. .. .. As above.
Lessor.. .. .. City of Montreal
Rent.. .. .. $6.66 per annum.

No. 95.—Montreal, P.Q... .. .. St. Cunegonde Ward, ground flour, Municipal building, corner Vinet and Richelieu, Montreal, with vault and toilet room, and basement, with entrance on Vinet street.
Occupied by.. .. .. Post Office.
Lessor.. .. .. Originally City of St. Cunegonde, now City of Montreal.
Term expires.. .. .. June 10, 1925.
Rent.. .. .. $1,750 per annum.
Lessor pays heat, light and cleaning.

No. 96.—Montreal, P.Q... .. .. Rooms 4, 5, 6 and 7, also space in vault in "Duluth Building," corner Notre Dame and St. Sulpice streets.
Occupied by.. .. .. Archives Department.
Lessor.. .. .. J. Thomas Ostell.
Term expires.. .. .. May 1, 1916, thereafter from month to month.
Rent.. .. .. $90 per month.
Lessor pays all taxes, water, heating, cleaning and provides janitor and elevator service.

No. 97.—Montreal, P.Q... .. .. Two rooms in lessor's building at 129 Commissioner street.
Occupied by.. .. .. Department of Naval Service.
Lessor.. .. .. Mr. T. Prud'homme.
Term expires.. .. .. December 1, 1916.
Rent.. .. .. $30 per month.

No. 98.—Moosejaw, Sask... .. .. Lots 27 and 28 in block 127 on Manitoba street.
Occupied by.. .. .. Immigration.
Lessor.. .. .. City of Moosejaw.
Term expires.. .. .. April 15, 1917.
Rent.. .. .. $100 per annum.
Lessee pays all taxes.

No. 99.—Nelson, B.C... .. .. Four rooms in lessor's brick building, corner Ward and Victoria streets.
Occupied by.. .. .. District Engineer.
Lessor.. .. .. John Ed. Annable.
Term expires.. .. .. April 13, 1917.
Rent.. .. .. $600 per annum.
Lessor pays taxes, water, heating, lighting and janitor.

No. 100.—Nominingue, P.Q... .. .. Privilege of gate, 15 feet in width in fence at C. P. Ry. station grounds.
Lessor.. .. .. C. P. Ry.
Term expires.. .. .. Gate may be removed and opening closed any time by C. P. Ry. on one month's written notice or by posting notice on premises.
Rent.. .. .. $8 for first year and $1 per year after that
Lessee indemnifies lessor against any damages.

No. 101.—North Battleford site.
Occupied by.. .. .. Immigration Hall.
Lessor.. .. .. Canadian Northern Railway.
Term expires.. .. .. April 30, 1909, lessee or lessor may terminate lease on one month's notice in writing.
Rent.. .. .. $1 per annum.
Lessee pays taxes.

No. 102.—North Portal, Sask... .. .. Site.
Occupied by.. .. .. Immigration Hall.
Lessor.. .. .. C. P. Ry.
Term expires.. .. .. Year to year (1st June each year).
Rent.. .. .. $1 per annum.
Lessee pays taxes.

No. 103.—North Sydney, N.S... .. .. Entire second flat of Y.M.C.A. building.
Occupied by.. .. .. Engineers.
Lessor.. .. .. Y.M.C.A.
Term expires.. .. .. May 1, 1917, option to lessee to continue from year to year on same terms by giving three months' notice in writing; this option subject to cancellation by written notice from lessors to lessee prior to first day of November in any year.
Rent.. .. .. $600 per annum.
Lessor pays ordinary taxes and heating.
Lessee pays water and light.

No. 104.—Ottawa, Ont... Two rooms, one in front and one in rear with vaults and lavatories, Victoria Chambers, 130 Wellington street, floor area 950 square feet.
Occupied by.. Interior Department, Inspector Dominion Lands Surveys.
Lessor... William Anderson Allan and Sandford Hall Fleming.
Term expires.. April 20, 1918.
Rent.. $90 per month.
Lessor pays all taxes, heating and lighting.

No. 105.—Ottawa, Ont... Whole of building No. 140 Argyle ave.
Occupied by.. House of Commons Restaurant.
Lessor.. The Ashbury College Co., Ltd.
Term expires.. March 1, 1917.
Rent.. $2,000 per year.
Lessor pays all taxes except water rates.
Lessee pays water, heat and light.

No. 106.—Ottawa, Ont... Suite No. 5 in Aylmer Annex, Nos. 11, 19 Slater street and storeroom in basement, 1,548 square feet at 46½c.
Occupied by.. Col. Biggar and staff, Militia and Defence Dept.
Lessor... Sir Henry N. Bate Realty Corporation.
Term expires... December 1, 1916.
Rent.. $720 per annum.
Lessors pay all taxes and heating, also janitor, but not care of premises leased.

No. 107.—Ottawa, Ont... Aylmer Annex, apartment No. 6.
Occupied by.. Militia and Defence.
Lessor... Sir Henry Bate Realty Corporation.
Term expires... October 1, 1916.
Rent.. $648 per annum.
Lessor pays all taxes, water, street sprinkling, snow cleaning rates and heating.
Lessee pays gas.

No. 108.—Ottawa, Ont... Suite of rooms in Apartment No. 7, in Aylmer Annex, and storeroom in basement, floor area 1,118 square feet.
Occupied by.. Royal Engineers.
Lessors.. Sir Henry N. Bate Realty Corporation.
Term expires... October 1, 1916.
Rent.. $30 per month in advance.
Lessor pays all taxes, water, street sprinkling, snow cleaning rates and heating.
Lessee pays gas.

No. 109.—Ottawa, Ont... Clock line service.
Lessor.. Bell Telephone Co.
Term expires.. September 19, 1920. May be terminated by either party on 30 days' written notice in advance. Line remains the property of the company.
Rent.. $560 per annum.

No. 110.—Ottawa, Ont... Whole of five upper floors and part of basement in Birks building, Sparks street, floor area 23,185 square feet.
Occupied by.. Militia and Defence, Railways and Canals, Public Works Department and Agriculture and Customs.
Lessors... Henry Birks & Sons, Ltd.
Term expires... October 1, 1916.
Rent.. $17,000 per annum.
Lessors pay taxes, heating and provide elevator.
Lessee pays water, lighting and cleaning.

No. 110a.—Ottawa, Ont... Two rooms on first floor of lessors' building, corner of Sparks and Bank streets. Floor area, 469 square feet.
Occupied by.. Mr. Challoner, Geodetic Survey, P. W. Dept.
Lessor.. Russell Blackburn.
Term expires... May 1, 1917.
Rent.. $350 per annum.
Lessors pay taxes and heating.
Lessee pays water.

No. 111.—Ottawa, Ont... .. .. Room 414 in Union Bank building.
Occupied by.. .. .. Munitions Board.
Lessor.. .. .. R. L. & R. Blackburn.
Term expires.. .. .. November 9, 1916.
Rent.. .. .. $371 per annum.
Lessor pays all taxes (except water), heating, and provides elevator service.
Lessee pays water, lighting and cleaning.
Rent to be paid by this Department to end of lease only.

No. 112.—Ottawa, Ont.. .. .. Part of 2nd floor, part of 3rd floor and the whole of 4th, 5th, 6th, 7th, 8th and 9th floors of eastern portion of Union Bank building, 29,350 square feet, which excludes halls, staircase, elevator space, corridors and toilet rooms, counting the top floor at one and one-half floors on account of its extra height.
Occupied by.. .. .. Post Office and Interior.
Lessors... .. .. R. L. and R. Blackburn.
Term expires.. .. .. July 16, 1918.
Rent.. .. .. $28,986 per annum.
Lessors pay taxes, heating and provide elevator service.
Lessee pays water, lighting and cleaning.

No. 113.—Ottawa, Ont.. .. .. Six floors in Union Bank building at rear of Langevin block, floor area, 15,240 square feet.
Occupied by.. .. .. Interior and Post Office.
Lessors... .. .. R. L. & R. Blackburn.
Term expires... .. .. January 6, 1917.
Rent.. .. .. $13,000 per annum.
Lessor pays taxes and heating.
Lessee pays water.

No. 114.—Ottawa, Ont.. .. .. Rooms bearing Nos. 608, 609 and 611, Union Bank building, 1,154 superficial feet.
Occupied by.. .. .. Post Office Department.
Lessors... .. .. R. L. & R. Blackburn.
Term expires... .. .. July 15, 1918.
Rent.. .. .. $1,154 per annum.
Lessors pay all taxes (less water rates) and heating.

No. 115.—Ottawa, Ont.. .. .. Large front room in basement of Union Bank building, on eastern side of building, floor area 2,600 superficial feet.
Occupied by.. .. .. Railway Lands Branch Interior Department.
Lessors... .. .. R. L. & R Blackburn.
Term expires... .. .. August 21, 1917, with option to renew.
Rent.. .. .. $1,040 per annum.
Lessor pays taxes, heating and elevator service.
Lessee pays lighting, water and cleaning.

No. 116.—Ottawa, Ont.. .. .. Room 408 with adjoining L in section "C" Union Bank building, 431 square feet floor space.
Occupied by.. .. .. Munition Board.
Lessors.. .. .. R. L. & R. Blackburn.
Term expires.. .. .. July 16, 1918.
Rent.. .. .. $431 per annum.
Lessors pay all taxes (except water rates), heating, lighting, cleaning and provide elevator service.

No. 117.—Ottawa, Ont.. .. .. Three top floors of the Plaza building, corner Sussex and Rideau streets.
Occupied by.. .. .. Militia and Defence.
Lessors.. .. .. R. L. & R. Blackburn.
Term expires.. .. .. August 23, 1916.
Rent.. .. .. $6,085 per annum.
Lessors pays taxes, heating and elevator service.

No. 118.—Ottawa, Ont.. .. .. 4th floor Booth building, 2,500 square feet at $1 per foot.
Occupied by.. .. .. War Purchasing Commission.
Lessors.. .. .. C. Jackson Booth and J. A. D. Holbrook.
Term expires.. .. .. November 1, 1918.
Rent.. .. .. $2,500 per annum.
Lessors pay all taxes and heating and provide use of elevators.

No. 119.—Ottawa, Ont... Three upper floors of building on Sparks street known as Booth building, 16,495 square feet.
Occupied by.. Indian Affairs.
Lessors.. C Jackson Booth and J. A. D. Holbrook.
Term expires.. November 1, 1918.
Rent.. $16,495 per annum.
Lessors pay all taxes and heating and provide use of elevators.

No. 120.—Ottawa, Ont... Room No. 410 in Trafalgar building.
Occupied by.. Mr. Pope, Controller of Revenue, Interior Dept.
Lessor.. John Charles Brennan.
Term expires.. May 1, 1918.
Rent.. $268.95 per annum.
Lessor pays taxes, except water rates and heating and provides use of elevator.
Lessee pays water rates, lighting and cleaning.

No. 121.—Ottawa, Ont... Room No. 212 Trafalgar building, floor area 291 square feet.
Occupied by.. Civil Service Commission.
Lessor.. John Charles Brennan.
Term expires.. May 1, 1918.
Rent.. $274.62 per annum.
Lessor pays taxes, heating and provides use of elevator.
Lessee pays water, lighting and cleaning.

No. 122.—Ottawa, Ont... Premises in Trafalgar building: —
On 1st floor.—Rooms Nos. 101 to 106 inclusive and Nos. 112 and 113, rooms 107 to 111 inclusive, occupied by Annuities Branch, Post Office Department.
On 2nd floor.—Rooms Nos. 201, 202, 203, 206 to 214 inclusive, occupied by Civil Service Commission.
On 3rd floor.—Rooms 301 to 314 inclusive, occupied by Accountant's Branch Interior Department.
On 4th floor.—Rooms 401 to 409 inclusive, 412 also 413 (room 413 vacant), occupied by Controller of Revenue, Interior Department. Floor area 16,955 square feet.
Lessor.. John Charles Brennan.
Term expires.. May 1, 1918.
Rent.. $16,000 per annum.
Lessor pays taxes and heating and provides use of elevator.
Lessee pays water, lighting and cleaning.

No. 123.—Ottawa, Ont... Four floors above ground floor in lessor's building on Queen street between Bank and O'Connor streets, 12,280 superficial feet.
Occupied by.. Interior Department, Dominion Parks Branch, 1st and 2nd floors; Public Works Department, Upper Ottawa storage, 3rd floor; Public Works Department, Georgian Bay Commission, 1st floor (part); Public Works Department, District Engineer, 4th floor.
Lessor.. Bryson Realty Co., Ltd.
Term expires.. April 25, 1919.
Rent.. $8,596 per annum.
Lessors pay taxes, water rates, heating.
Lessee provides elevator attendant.

No. 124.—Ottawa, Ont... 100 feet storage space in Bryson Realty Co.'s building on Queen street between Bank and O'Connor streets.
Occupied by.. Storage.
Lessors.. Bryson Realty Co., Ltd.
Rent.. $30 per year.
Term expires.. Year to year, May 20.

No. 125.—*Ottawa, Ont.*.. No. 105 Murray street, floor area 5,975 square feet. Lessors to provide the necessary access to 1st floor from the main building.
Occupied by.. Storage for Printing Bureau.
Lessors.. The Bytown and Suburbs Land Co., Ltd.
Term expires.. July 14, 1919.
Rent.. $2,390 per annum.
Lessors pay taxes, water and insurance.

No 126.—*Ottawa, Ont.*.. Third or top floor of building on Driveway, corner of Emmett and Lewis streets.
Occupied by.. General Medical Service, Militia and Defence Department.
Lessors.. Capital Storage Co., Ltd.
Term expires.. April 17, 1917.
Rent.. $1,520 per annum.
Lessors pay all taxes, water, heating and provide elevator for freight.

No. 127.—*Ottawa, Ont.*.. Basement 136 Emmett street, 3,300 square feet.
Occupied by.. Storage Militia and Defence.
Lessor.. Capital Storage Co., Ltd.
Term expires.. Date of lease, October 8, 1914. Term 1 year from date of occupation and thereafter during the continuance of the war. Lessee to give 3 months written notice of intention to vacate.
Rent.. $1,650 per annum.
Lessor pays taxes, water, insurance, heating and elevator service.

No. 128.—*Ottawa, Ont.*.. 2nd, 3rd, 4th, 5th, 6th and 7th floors of Carling building east side Bank street between Sparks and Queen street.
Occupied by .. Interior Department.
Lessor.. Mrs. Eva C. Carling.
Term expires.. February 22, 1920.
Rent.. $13,000 per annum.
Lessor pays all taxes, heating and provides elevator service.

No 129.—*Ottawa, Ont.*.. Dwelling house and premises, No. 12 Emmett street, excepting the stable facing Lisgar street, which lessor may remove at any time, floor area 3,000 square feet.
Occupied by.. Director General Medical Stores.
Lessor.. E. W. Clark, Managing Director Standard Milk Co., corner Yukon and 8th avenue, Vancouver, B.C.
Term expires.. April 30, 1918.
Rent.. $50 per month.
Lessor pays taxes.
Lessee pays water, water sprinkling, snow cleaning.

No. 130.—*Ottawa, Ont.*.. First and second floors of building 113-115 Rideau street (corner William), with a small shed in rear. Floor area 10,919 square feet.
Occupied by.. Militia Department.
Lessors.. Duford and Charleson.
Term expires.. February 20, 1918.
Rent.. $7,053.60 per year.
Lessors pay taxes and heating and freight elevator service.
Lessee pays water.

No. 131.—*Ottawa, Ont.*.. Property in Ottawa, 128 Wellington street. Floor area 5,714 square feet.
Occupied by.. N. W. Mounted Police.
Lessor.. D. M. Finnie and W. D. Morris.
Term expires.. November 20, 1917.
Rent.. $4,000 per annum.
Lessors pay taxes, water, insurance.
Lessee pays heating, cleaning and lighting.

No 132.—*Ottawa, Ont.*.. Premises bearing civic No. 126 Queen street.
Occupied by.. Stationery and Supply Branch of Railway Lands, Interior Department.
Lessor.. Archibald Leslie Foster, M.D.
Term expires.. November 1, 1916.
Rent.. $75 per month.
Lessor pays all taxes.

No. 133.—Ottawa, Ont... .. .. Two top floors of Imperial building, corner Queen and O'Connor streets. Floor area 10,497 square feet.
Occupied by.. .. .. Topographical Branch of Interior Department.
Lessor.. .. .. John M. Garland, Son & Co.
Term expires.. .. .. October 1, 1916, renewed for 3 years with Mrs. E. A. Pearson.
Rent.. .. .. $2,500 per annum.
Lessors pay taxes, water, insurance, heating.
Lessee pays lighting and cleaning.

No. 134.—Ottawa, Ont... .. .. Easement for projection of about two feet beyond line of division between southeast corner of roof of Langevin block and property of G. H. Perley.
Lessor.. .. .. C. Jackson Booth.
Term expires... .. .. October 1, 1918, and is renewable for 21 years at expiry of each 21 years for which period lease is drawn.
Rent.. .. .. $5 per annum..

No. 135.—Ottawa, Ont... .. .. All that 4-story brick building northeast corner of O'Connor and Queen streets, known as Regal building. Floor area, 22,512 square feet.
Occupied by.. .. .. Labour Department, Militia Department.
Lessor.. .. .. J. E. Hanna.
Term expires.. .. .. September 12, 1919.
Rent.. .. .. $13,000 per annum.
Lessor pays taxes.
Lessee pays water, snow cleaning, heating, lighting, street sprinkling, janitor service, operation of elevator and all expenses in connection with maintenance. Order in Council, September 11, 1914.

No. 136.—Ottawa, Ont... .. .. Third floor of Hope building, corner Sparks and Elgin streets. Floor area, 2,544 square feet.
Occupied by.. .. .. Railway Mail Service.
Lessor.. .. .. James Hope & Son.
Term expires.. .. .. January 29, 1918.
Rent.. .. .. $2,500 per annum.
Lessors pay taxes, water, insurance, heat and provide elevator service

No. 137.—Ottawa, Ont... .. .. Easement Langevin block.
Lessor .... Jas. Hope.
Term expires.. .. .. April 25, 1919, renewable at expiry of lease for 21 years and thereafter for further 21 years at expiry of each 21 years period.
Rent.. .. .. $5 per annum.

No. 138.—Ottawa, Ont... .. .. *Canadian building.*—12 and 14 Slater street, excepting that portion occupied by lessor as an office.
Militia buildinig.—22 and 28 Slater street.
Queen street building.—64 and 66 Queen street.
Occupied as follows... .. .. .. *Canadian building present occupants:*
7th floor.—Agriculture.
6th " —Census and Statistics.
5th " —west side.—Agriculture.
5th " —east side.—Auditor General.
4th " —Interior.
3rd " —Interior.
2nd " —Immigration.
1st " —Immigration (west side).
1st " —Interior (east side), also Trade and Commerce.
Militia building.—All floors occupied by Militia and Defence.
Queen street building.—By Agriculture. Total floor area, 127,581 square feet.
Lessor... .. .. Imperial Realty Co., Limited.
Term expires... .. .. May 1, 1916. New arrangement pending.
Rent.. .. .. $78,468.94 per annum.
Lessor pays special taxes, heating.
Lessee pays taxes, snow cleaning, water, street sprinkling and lighting.

No. 139.—Ottawa, Ont. . . . . . First two flats and basement 326 and 328 Queen street. Floor area, 4,000 square feet.
Occupied by . . . . . Agriculture.
Lessor . . . . . Frank Jarman.
Term expires . . . . . April 1, 1919.
Rent . . . . . $130 per month.
Lessor pays taxes, water and heating.

No. 140.—Ottawa, Ont. . . . . . Second, third, fourth and fifth floors of Journal building on Queen street, near Bank, 16,560 square feet at 70 cents (See also additional space for Departments of Agriculture and Interior not included in this lease).
Occupied by . . . . . 2nd floor.—Auditor General Department.
3rd floor.—Interior Department.
6th floor.—Agriculture Department.
3rd, 4th and 5th floor.—Forestry Department.
5th floor.—Ottawa River Works.
5th floor.—Public Works Department.
Lessor . . . . . Journal Printing Co., Limited.
Term expires . . . . . January 12, 1919.
Rent . . . . . $11,592 per annum, see also additional space for Departments of Agriculture and Interior.
Lessor pays all taxes and heating.

No. 141.—Ottawa, Ont. . . . . . Seven hundred and seventy square feet at 70 cents southeast corner 6th floor Journal building.
Occupied by . . . . . Translator and assistants of Department of Agriculture.
Lessor . . . . . Journal Printing Co., Ltd.
Term expires . . . . . Yearly.
Rent . . . . . $539 per year.

No. 142.—Ottawa, Ont. . . . . . Six hundred and twenty-one square feet at 70 cents in basement Journal building, southeast corner.
Occupied by . . . . . Forestry Branch of Interior.
Lessor . . . . . Journal Printing Co., Ltd.
Term expires . . . . . Yearly.
Rent . . . . . $434.70 per annum.

No. 143.—Ottawa, Ont. . . . . . Premises on sixth floor of La Banque Nationale building, Rideau street.
Occupied by . . . . . Translators.
Lessor . . . . . La Banque Nationale.
Term expires . . . . . April 14, 1919.
Rent . . . . . $2,116.20 per year.
Lessors pay all taxes, water, heating and provide elevator service.

No. 144.—Ottawa, Ont. . . . . . Rooms 4, 5, 6, 7, 8 and 9 in lessors' building on Rideau street, floor area 2,209 square feet.
Occupied by . . . . . Officer commanding internment operations, Militia and Defence Department.
Lessor . . . . . La Banque Nationale.
Term expires . . . . . At end of war, with right to lessee to terminate on month's notice to lessor.
Rent . . . . . $1,150 50 per annum.
Lessor pays all taxes, water, heating and provides elevator service.

No. 145.—Ottawa, Ont. . . . . . Three stores on ground floor, the whole of 1st and 2nd floors and 4,800 superficial feet of basement of lessor's building, corner Dalhousie and York streets. Total floor area, 18,000 square feet.
Occupied by . . . . . Stationery Branch Printing Bureau.
Lessor . . . . . Patrick Labelle.
Term expires . . . . . January 2, 1919.
Rent . . . . . $11,500 per annum.
Lessor pays taxes, water, heat and gives use of elevator.

No. 146.—Ottawa, Ont. . . . . . Garage building on York street.
Occupied by . . . . . Dept. of Public Printing and Stationery.
Lessor . . . . . Patrick Labelle.
Term expires . . . . . January 2, 1919.
Rent . . . . . $2,448 per annum.
Lessor pays all taxes (including white way) and water rates.

SESSIONAL PAPER No. 19

No. 147.—Ottawa, Ont... Nos. 317, 319 and 321 Queen street, together with the new building thereto annexed. Floor area, 16,000 square feet.
Occupied by.. Analyst and Testing Departments, Inland Revenue.
Lessors.. J. B. & W. A. Lamb.
Term expires... June 1, 1917, and thereafter from year to year.
Rent.. $2,660 per annum.
Lessors pay local improvements, taxes and water.
Lessees pay taxes (excepting as above) and heating.

No. 148.—Ottawa, Ont... Third and fourth floors of Stephen building, 217-219 Queen street.
Occupied by.. Seed grain staff, Interior Department.
Lessor.. The 2 Macs. Ltd.
Term expires.. June 29, 1916.
Rent.. $300 per month.
Lessor pays all taxes, heating and elevator service.
Lessee pays water rates.

No. 149.—Ottawa, Ont... 1st and 2nd floors of Stephen building, north side Queen street, immediately west of Bank street. Floor area 4,970, rent equals 70 cents per square foot.
Occupied by.... Stationery Branch Interior.
Lessor... The 2 Macs, Ltd.
Term expires... June 6, 1920.
Rent.. $3,479 per annum.
Lessors pay all taxes (except water rates), heating and provide elevator service.

No. 150.—Ottawa, Ont... Third and fourth floors of McNeill-Stewart building, 198 and 200 Queen street. Floor area, 2,893 square feet.
Occupied by.... Additional accommodation for Auditor General
Lessor... E. R. McNeill and R. G. Stewart.
Term expires... September 5, 1916.
Rent.. $1,850 per annum.
Lessors pay taxes and heating and provide elevator service.
Lessee pays water.

No. 151.—Ottawa, Ont... Building No. 18 York street; floor area about 25,000 square feet.
Occupied by.. Distribution office of Printing Bureau.
Lessor.. A. J. Major.
Term expires.. Five years from date of occupation.
Rent.. $6,155 per year.
Lessor pays all taxes and insurance.
Lessee pays heating and elevator service.

No. 152.—Ottawa, Ont... Basement of premises 174, 176 and 178 Wellington street. Floor area, 2,830 square feet.
Occupied by.... Lithographing Division Survey Branch, Militia and Defence.
Lessor... W. H. Martin & Co.
Term expires... December 4, 1916, with option to renew for two years at same rental.
Rent.. $900 per annum.
Lessors pay taxes, water, insurance and heating.
Lessees pay light.

No. 153.—Ottawa, Ont... Mezzanine floor and basement, Ottawa Masonic Temple. Floor space 1,017 square feet. feet.
Occupied by.... Conservation Commission.
Lessor... Ottawa Masonic Temple, Ltd.
Term expires... November 15, 1918.
Rent.. $636.75 per annum.
Lessor pays all taxes (except water rates) and heating, and provides use of elevator.

No. 154.—Ottawa, Ont... Ground floor and first floor building on Metcalfe street, between Slater and Laurier avenue west, known as "New Masonic Temple," 8,188 square feet at 75 cents a foot.
Occupied by.... Conservation Commission.
Lessor... Ottawa Masonic Temple, Limited.
Term expires... November 15, 1918.
Rent.. $6,141 per annum.
Lessor pays taxes, heating and gives use of elevator.
Lessee pays water, lighting and cleaning.

No. 155.—Ottawa, Ont. . . . . . Premises two stories high, No. 64 and 66 George street, 4,200 square feet at 43c.
Occupied by . . . . . Storage Militia and Defence.
Lessor . . . . . The Molson's Bank.
Term expires . . . . . February 20, 1917.
Rent . . . . . $150 per month.
Lessors pay all taxes, including water.

No. 156.—Ottawa, Ont. . . . . . Whole of building northeast corner of Metcalfe and Slater streets, except 33 by 66 feet of lot upon which building stands, which is not built upon. Floor area 9,764 square feet.
Occupied by . . . . . Interior and Surveyor General.
Lessor . . . . . Ottawa Building Co.
Term expires . . . . . May 1, 1918.
Rent . . . . . $4,000 per annum.
Lessors pay special taxes and insurance
Lessee pays taxes, excepting as above, water, heat, light and cleaning.

No. 157.—Ottawa, Ont. . . . . . West half of lot No. 19, on south side of Wellington street, Nos. 102 and 104 Wellington street. Floor area, 5,232 square feet.
Occupied by . . . . . Interior Department.
Lessor . . . . . Ottawa Building Co., Ltd.
Term expires . . . . . June 1, 1920.
Rent . . . . . $2,500 per annum.
Lessors pay special taxes.
Lessee pays taxes, excepting as above, water, street sprinkling and snow cleaning.

No. 158.—Ottawa, Ont. . . . . . Nos. 98, 100 south side Wellington street, known as "Nagle building." Floor area, 5,506 square feet.
Occupied by . . . . . Justice Department.
Lessor . . . . . Ottawa Building Co., Limited.
Term expires . . . . . May 1, 1918.
Rent . . . . . $2,500 per annum.
Lessors pay special taxes and insurance.
Lessees pay taxes, excepting as above, water, heating, lighting and cleaning.

No. 159.—Ottawa, Ont. . . . . . Stone building, southwest corner Queen and Metcalfe streets, Nos. 94 and 96 Queen street, also yard. Floor area, 7,129 square feet.
Occupied by . . . . . Stationery and Exhibition Branch Agriculture Department.
Lessor . . . . . Ottawa Investment Co., Ltd.
Term expires . . . . . Yearly on 1st August.
Rent . . . . . $1,000 per annum.
Lessor pays special taxes.
Lessee pays taxes, excepting as above, and water.

No. 160.—Ottawa, Ont. . . . . . Second, third and fourth floors of new Central station building. Floor area, 23,761 square feet.
Occupied by . . . . . Railway Commission, Board of.
Lessor . . . . . Ottawa Terminals Railway Co.
Term expires . . . . . November 1, 1916, with option to renew for five years or less under terms to be agreed upon between lessor and lessee.
Rent . . . . . $19,500 per annum.
Lessors pay taxes, heating and power for elevators.
Lessee pays water and light.

No. 161.—Ottawa, Ont. . . . . . Basement, ground and first floors, brick building known as Imperial building, south side Queen street, No. 138 (excepting that portion of basement used for heating plant and coal storage). Floor area, 11,162 square feet.
Occupied by . . . . . Interior Department, Surveyor General.
Lessor . . . . . Eliza Ann Pearson.
Term expires . . . . . January 1, 1919.
Rent . . . . . $5,400 per annum.
Lessor pays taxes.
Lessee pays water.

No. 162.—Ottawa, Ont... Three rooms on 2nd floor and two rooms on 3rd floor in Quebec Bank building, Wellington street. Floor area, 1,500 square feet.
Occupied by.... Statistical Branch of Railways and Canals.
Lessor... Quebec Buildings, Limited.
Term expires.... May 1, 1917.
Rent.. $1,200 per annum.
Lessor pays taxes, water, insurance and heating.

No. 163.—Ottawa, Ont... Three upper stories of lessors' building, corner Rideau and Sussex streets, 62,907 square feet at 70 cents per foot.
Occupied by.... Marine and Fisheries and Naval Service.
Lessor... A. E. Rea Co., Ltd.
Term expires.... September 9, 1919.
Rent.. $44,034.90 per annum.
Lessor pays taxes, heating and elevator service.
Lessee pays water.

No. 164.—Ottawa, Ont... West office of ground floor of lessors' building, Wellington street, 1,785 square feet.
Occupied by.... Rural Mail Service.
Lessor... The Rideau Club.
Term expires.... May 1, 1917.
Rent.. $1,800 per annum.
Lessor pays taxes, water and heating.

No. 165.—Ottawa, Ont... Whole of Robinson block south side Queen street between Metcalfe and Elgin streets, except one store and the basements under said store. Floor area 38,272 sq. feet=39 7/10 cents.
Occupied by.... P. O. Department, Public Works Department and Customs Department.
Lessor... Hiram Robinson.
Term expires.... September 1, 1918.
Rent.. $15,200 per annum.
Lessor pays taxes, water, insurance and provides power for elevators.
Lessee pays heating, lighting and cleaning.

No. 166.—Ottawa, Ont... Rooms 1, 2, 3, 4, 7, 8, 9 on second floor lessors' building, on southeast corner Sparks and Metcalfe streets.
Occupied by.... District Engineer and Captain Davey, Public Works.
Lessor... Royal Bank of Canada.
Term expires.... March 18, 1920.
Rent.. $2,913.30 per annum.
Lessors pay all taxes, water, heating, and provide elevator service.

No. 167.—Ottawa, Ont... Portion lessors' building southwest corner Sparks and Metcalfe streets.
Occupied by.... Interior Department, Chief Geographer's Branch and the Geographic Board.
Lessor... Royal Bank of Canada.
Term expires.... March 18, 1920.
Rent.. $4,747.10 per annum.
Lessors pay all taxes, water, heating, and provide elevator service.

No. 168.—Ottawa, Ont... Lot No. 11 south side Wellington street.
Occupied by.... Public Works Department.
Lessor... Slater Estate.
Term expires.... Monthly.
Rent.. $30 per month.
Lessor pays all taxes and water.

No. 169.—Ottawa, Ont... Building 172 Wellington street, also yard and addition in rear two stories high along with basement. Floor area, 5,752 square feet.
Occupied by.... Northwest Mounted Police.
Lessor... Robert Nicholas Slater.
Term expires.... March 15, 1910, since which we have been tenants from year to year.
Rent.. $1,140 per annum.
Lessee pays taxes, water, street sprinkling and snow cleaning.

No. 170.—Ottawa, Ont... .. .. Two flats at 109 Rideau street. Floor area, 2,600 square feet.
Occupied by.... .. .. Additional accommodation for Inspection Staff of Department of Militia and Defence.
Lessor.. .. .. W. R. Stroud.
Term expires.... .. .. February 20, 1917.
Rent.. .. .. $1,677 per annum.
Lessor pays all taxes and heating.
Lessee pays water and lighting.

No. 171.—Peace River Crossing, Alta.. .. .. .. South half of first floor of lessor's building.
Occupied by.... .. .. Post Office.
Lessor... .. .. Chas. W. Fredericks.
Term expires... .. .. November 1, 1916, and thereafter from year to year on same terms. Three months' written notice shall be required from either party to terminate the tenancy at end of any year.
Rent.. .. .. $360 per annum, $125 by postmaster, $235 by Government.
Lessor pays all taxes.

No. 172.—Peace River Crossing, Alta.. .. .. .. Building owned by lessors.
Occupied by.... .. .. Dominion Lands Agency, Interior Department.
Lessor... .. .. George & Stewart.
Term expires.... .. .. Month to month from October 15, 1915.
Rent.. .. .. $60 per month.
Lessor pays all taxes.

No. 173.—Pincher Creek, Alta.. .. .. Two rooms on 2nd floor in lessor's new building.
Occupied by.... .. .. Supervisor of Crows Nest Forest Reserve.
Lessor.. .. .. Messrs. Fraser Bros. & McRoberts.
Term expires.... .. .. Month to month.
Rent.. .. .. $30 per month.

No. 174.—Portage la Prairie, Man.. .. .. First floor, premises on Tupper street, 40 by 60 feet.
Occupied by.... .. .. Customs Examining Warehouse.
Lessor.. .. .. John J. Garland.
Term expires.... .. .. April 8, 1918.
Rent.. .. .. $35 per month.
Lessor pays all taxes and heating.

No. 175.—Prince Albert, Sask.. .. .. Premises.—Ground floor in Herald block, south side 11th street west, between 1st and 2nd avenues west, 1,286 square feet, rent equals 93½ cents per square foot.
Occupied by.... .. .. District Engineer.
Lessor.. .. .. Herald Building, Ltd.
Term expires.... .. .. Month to month.
Rent.. .. .. $100 per month.
Lessors pay taxes, water, heating and provide janitor service.
Lessee pays $1 per month for light.

No. 176.—Prince Rupert, B.C.. .. .. Part of lessor's wharf.
Occupied by.... .. .. Site for Immigration Hall.
Lessor.. .. .. Grand Trunk Pacific Ry. Co.
Term expires.... .. .. November 20, 1915, and thence from year to year. Lessee may determine any time on three months' notice.
Rent.. .. .. $5 per annum.
Lessee pays taxes.

No. 177.—Prince Rupert, B.C.. .. .. First story of lessor's building on 1st avenue.
Occupied by.... .. .. Examining warehouse.
Lessor.. .. .. Joseph Edward Merryfield, now Allan Campbell.
Term expires.... .. .. June 1, 1917.
Rent.. .. .. $175 per month.
Lessor pays taxes, water, heating and janitor service.

No. 178.—Prince Rupert, B.C.. .. .. Two rooms in Federal building. Floor space, 347·24 square feet, which equals 88 cents per square foot rental.
Occupied by.... .. .. Captain Davies, Examiner, Masters and Mates, Marine and Fisheries Department.
Lessor... .. .. Northern B. C. Development Cor.
Term expires.. .. .. Month to month.
Rent.. .. .. $25 per month.
Lessors pay taxes and heating.

No. 179.—Prince Rupert, B.C... .. .. Whole of ground floor together with rooms Nos. 1 to 9 inclusive on first floor of lessor's building, known as the "Federal Block."
Occupied by.... .. .. Inland Revenue, Marine and Fisheries, Post Office and Customs and Public Works Departments.
Lessor.. .. .. Northern B. C. Development Co.
Term expires.... .. .. June 1, 1917.
Rent.. .. .. $500 per month.
Lessors pay taxes and heating.
Lessee pays water.

No. 180.—Quebec, Que.. .. .. Offices in building, 103 St. John street.
Occupied by.... .. .. Engineers in connection with River St. Charles improvement.
Term expires.. .. .. May 1, 1917.
Lessor.. .. .. J. S. Bergeron.
Rent.. .. .. $325 per annum.
Lessor pays taxes, water, heating, lighting and cleaning.

No. 181.—Quebec, Que.. .. .. Whole of second floor, 103 St. John street, also toilet room.
Occupied by.... .. .. Colonization Agent.
Lessor... .. .. J. S. Bergeron.
Term expires.. .. .. May 1, 1917.
Rent.. .. .. $450 per annum.
Lessor pays taxes, heat and light.

No. 182.—Quebec, Que.. .. .. Ground floor (1,761 square feet) and portion of basement (1,216 square feet) in Dominion building, St. Peter street.
Occupied by... .. .. P. O. station "B."
Lessor... .. .. Dominion Fish and Fruit, Ltd.
Term expires.. .. .. May 1, 1918.
Rent.. .. .. $3,000 per annum.
Lessor pays taxes, water, heating, cleaning and removal of snow.

No. 183.—Quebec, Que.. .. .. Three offices in R. Forget property, 76 St. Peter street, 465 square feet at 64½c.
Occupied by.. .. .. Mr. E. Rochette, Business Profits War Tax agent.
Lessor... .. .. L. H. Gaudry.
Rent.. .. .. $25 per month.
Lessee pays heating and lighting.

No. 184.—Quebec, Que.. .. .. Room 15 x 14 in lessor's premises.
Occupied by.... .. .. J. A Simard of Seeds Branch of Agriculture Department.
Lessor... .. .. Mrs M. M. Germain, 57 Ste. Anne st., Quebec.
Term expires.. .. .. Month to month.
Rent.. .. .. $25 per month.
Lessor provides telephone and telephone service and caretaking and part furnishings and pays for heating and lighting.

No. 185.—Quebec, Quebec.. .. .. Brick house and grounds on Little River road.
Occupied by.... .. .. House for Medical Superintendent, Quebec Immigration Hospital.
Lessor... .. .. John Jack.
Term expires.. .. .. May 1, 1918.
Rent.. .. .. $600 per annum.
Lessor pays taxes and water.

No. 186.—Quebec, Que.. .. .. Room 17 by 16 feet, No. 1, Couillard street, Upper Town.
Occupied by.... .. .. P. O. Case Examiner, D. Blondeau.
Lessor... .. .. Mrs. O. Paris.
Term expires.. .. .. Letter of Mrs. Paris of May 14, 1914, says Department may keep office as long as wanted, but not less than a year.
Rent.. .. .. $20 per month.
Lessor pays taxes, water, snow cleaning, heating, lighting and caretaking.

No. 187.—Quebec, Que.. .. .. One thousand eight hundred square feet at $1.25 per square foot. Rooms 500, 501, 502 and 503 on 5th floor lessor's building, corner of St. Joseph and Crown streets, Quebec.
Occupied by.... .. .. District Engineer.
Lessor... .. .. Quebec Railway, Light, Heat and Power Co.
Term expires.. .. .. September 1, 1916, with option to continue from month to month.
Rent.. .. .. $2,250 per annum.
Lessor pays taxes, water, heat, elevator service and janitor.

No. 188.—Quebec, Que... .. .. Part of lessor's building, 35 Chemin Ste. Foye.
Occupied by... .. .. Candiac postal station.
Lessor... .. .. J. Paul Tardival.
Term expires.. .. .. September 1, 1917.
Rent.. .. .. $300, of which postmaster pays $175, and Government $125.
Lessor pays all taxes, water, cleaning and heating.

No. 189.—Quebec, Que... .. .. Three rooms, one vault and vestibule, 23 St. Louis street.
Occupied by... .. .. Archives.
Lessor... .. .. Miss Margaret White.
Term expires.. .. .. April 30, 1917.
Rent.. .. .. $30 per month.
Lessor pays taxes, water, heat, removal of snow.

No. 190.—Regina, Sask... .. .. Premises on ground floor in new Robt. Simpson building.
Occupied by... .. .. Parcel Post.
Lessor... .. .. Robt. Simpson Co. Ltd.
Term expires.. .. .. Year to year.
Rent.. .. .. $100 per annum.
Lessors pay all taxes, heating and lighting.

No. 191.—Regina, Sask... .. .. Portion of ground floor of building No. 2158 on 12th ave. Floor area, 1,470 square feet.
Occupied by.... .. .. Weights and Measures.
Lessor... .. .. J. A. Westman Agency Ltd.
Term expires.. .. .. November 1, 1917.
Rent.. .. .. $100 per month.
Lessors pay all taxes (except business taxes), water and heating.

No. 192.—Regina, Sosk... .. .. Two rooms in Westman chambers, Rose street. Floor area, 270 square feet, which equals $1.33⅓ per square foot.
Occupied by... .. .. Inland Revenue.
Lessor... .. .. The J. A. Westman agency.
Term expires.. .. .. Month to month.
Rent.. .. .. $30 per month.
Lessors pay taxes except business tax, provide water service and heating.

No. 193.—Reston, Man... .. .. Ground floor of lessor's building situated on lot 17, block 4.
Occupied by.... .. .. Post Office.
Lessor.. .. .. Wm. Albert Brady.
Term expires.... .. .. August 15, 1916.
Rent.. .. .. $300 per annum, of which the Government pays $112 and the postmaster $188.
Lessor pays all taxes.

No. 194.—Revelstoke, B.C... .. .. Rooms 2 and 3 of Canadian Bank of Commerce building.
Occupied by... .. .. Chief Fire Ranger.
Lessor... .. .. Canadian Bank of Commerce.
Term expires.. .. .. December 16, 1916.
Rent.. .. .. $40 per month.
Lessor pays all taxes, heating and cleaning.

No. 195.—Revelstoke, B.C... .. .. Rooms 1, 4 and 5, on 2nd floor, Canadian Bank of Commerce building.
Occupied by... .. .. Dominion Lands agent.
Lessor... .. .. Canadian Bank of Commerce.
Term expires.. .. .. February 1, 1917.
Rent.. .. .. $60 per month.
Lessor pays taxes, heat and caretaking.
Lessee pays lighting.

No. 196.—Ridgetown, Ont... .. .. Portion of municipal building.
Occupied by... .. .. Post office.
Lessor... .. .. Town of Ridgetown.
Term expires.. .. .. Year to year.
Rent.. .. .. $525 per annum, of which $300 is paid by Government and $225 by postmaster.
Lessors pays all taxes. Lessors provide heat and light at a cost to the postmaster not exceeding $150 per annum.

SESSIONAL PAPER No. 19

No. 197.—Roblin, Man. .. .. Second floor, lot 6 in block 4 in townsite of Roblin, Man. Registered Plan No. 352.
Occupied by... .. .. Supervisor of Riding Mountain Reserve.
Lessor... .. .. Frederick Young Newton.
Term expires.. .. .. December 1, 1916.
Rent.. .. .. $27.50 per month.
Lessor pays taxes and heat.

No. 198.—Rocky Mountain House, Alta. .. .. .. Whole of a frame metal covered building on Center street.
Occupied by... .. .. Forest Supervisor.
Lessor... .. .. Mary Catherine Green, wife of T. D. Green.
Term expires.. .. .. Month to month.
Rent.. .. .. $25 per month.
Lessor pays all taxes.

No. 199.—St. Anne de Bellevue, Que. .. .. Room 25 by 25 feet in municipal building, with use of shed for storage of wood and coal.
Occupied by.. .. .. Post office.
Lessor.. .. .. Municipality of St. Anne de Bellevue.
Term expires.. .. .. From year to year on June 1, each year.
Rent.. .. .. $250 per annum.
Lessors pays taxes, removal of snow.
Lessee pays heating, lighting and water.

No. 200.—St. Eustache, Que. .. .. Part of first floor of town hall—524 feet 3 in.
Occupied by.. .. .. Post office.
Lessor.. .. .. Village of St. Eustache.
Term expires.. .. .. February 1, 1919.
Rent.. .. .. $300 per annum.
Lessor pays all taxes, heating and snow cleaning.

No. 201.—St. Felix de Valois, Que. .. .. Front room of hosue on south side of principal street.
Occupied by.. .. .. Post office.
Lessor.. .. .. J. H. Lavallee.
Term expires.. .. .. February 23, 1917, with option to renew from year to year on 3 months' notice.
Rent.. .. .. $125 per annum, of which the Government pays $87 and the postmaster $38.
Lessor pays all taxes, water, heat, light, cleaning and removal of snow.

No. 202.—St. Georges de Beauce, Que. .. .. First story of building, 20 by 30 feet.
Occupied by.. .. .. Post office.
Lessor.. .. .. Mrs. P. L. Moisan.
Term expires.. .. .. September 1, 1917, with option of renewal for another 5 years on same terms.
Rent.. .. .. $300 per annum. $200 paid by Department and $100 paid by Postmaster.
Lessor pays taxes, removal of snow, heat, light and cleaning.

No. 203.—St. Jean de Matha, Que. .. .. Wooden house, 36 by 40 feet, 2 stories, No. 300 of first row, St. Louise.
Occupied by.. .. .. Post office.
Lessor.. .. .. J. Baptiste Turcotte.
Term expires.. .. .. July 1, 1916.
Rent.. .. .. $44 per annum of which Postmaster pays $19 and Department 25.
Lessor pays taxes, heating and removal of snow.

No. 204.—St. John, N.B. .. .. Lot, upper end No. 5, Warehouse, Sand Point.
Occupied by.. .. .. Site for construction of a shelter at Sand Point for the ship labourers.
Lessor.. .. .. City of St. John, N.B.
Term expires.. .. .. January 1, 1918. Renewable for other seven years, but should lessor refuse to renew, then city to pay lessee the sum spent in improvements.
Rent.. .. .. Two cents per annum.
No taxes.

No. 205.—St. John, N.B. .. .. Ground rent for portion of site of Customs House.
Lessor... .. .. City of St. John, N.B.
Rent.. .. .. $22 per annum.

No. 206.—St. John, N.B... Second story of No. 4 Wharf Warehouse and Ramp.
Occupied by.. Immigration.
Lessor.. City of St. John.
Term expires.. Year to year from December 31.
Rent.. $2,105.32 per annum.
Lessees pay City of St. John consumption rates for water supplied.

No. 207.—St. John, N.B... Extension wire for regulation of P. O. clock.
Lessor... N. B. Telephone Co.
Rent.. $10 per annum.

No. 208. St. Joseph de Beauce, Que... 20 x 30 feet which equals 600 square feet, height to be not less than 10 feet in building on Main street where the Post Office building now stands.
Occupied by.. Post Office.
Lessor.. Odilon Cliche
Term expires.. Five years from date of occupation.
Rent.. $350 per annum, of which Government pays $200 and postmaster $150.
Lessor pays all taxes (except water rates), heating, and provides janitor service, necessary stove and is to install electric light for 7 twenty-five watt lamps.

No. 209.—St. Rose, Que... Ground floor of school house.
Occupied by... Post office.
Lessor... Village of St. Rose, Que.
Term expires.. May 1, 1917, with option of renewal for five years at same terms on mutual consent of the parties. Lessor entitled to three months' notice of renewal.
Rent.. $200 per annum, of which postmaster pays $38 and Department $162.
Lessor pays taxes, water, removal of snow, heat and light.

No. 210.—St. Stephen, N.B... Rooms in building, corner King and Water streets, with right to use of basement for storage of fuel, etc., and right of entrance from Water street.
Occupied by... Immigration office.
Lessors.. Originally John D. Chipman, now David Johnson.
Term expires.. August 13, 1916.
Rent.. $150 per annum.

No. 211.—Salmon Arm, B.C... Three rooms in rear of Bank of Hamilton building.
Occupied by... Chief Fire Ranger.
Lessor... L. J. Robb, Manager, Bank of Hamilton.
Term expires.. On three months' notice by lessor.
Rent.. $12 per month.
Lessor pays taxes and heating.

No. 212.—Saskatoon, Sask... Two rooms in lessor's premises with use of lane for entrance, also use of lavatory in common with other tenants.
Occupied by... Inspector of Weights and Measures.
Lessor... John H. Cameron and Annie M. Johnstone.
Term expires.. November 11, 1916.
Rent.. $60 per month.
Lessors pay heating and lighting.
Lessee pays taxes.

No. 213.—Saskatoon, Sask... 2,000 square feet on ground floor of "York Building."
Occupied by.. Customs, Express Office and Examining Warehouse.
Lessor.. Canadian city and town properties of Saskatoon.
Term expires.. June 5, 1917, with option to renew for another year.
Rent.. $70 per month.
Lessors pay all taxes, water, and steam heating.

No. 214.—Saskatoon, Sask... Suites Nos. 412 and 415 in lessor's building, corner of 21st street and 1st avenue.
Occupied by.... Superintendent Railway Mail Service and Staff.
Lessor... Imperial Canadian Trust Co.
Term expires.. September 1, 1916.
Rent.. $631.20 per annum.
Lessor pays all taxes, water service, heating, cleaning and elevator service.

No. 215.—Saskatoon, Sask... .. .. Suite No. 212, in building corner 21st street and 1st avenue, known as the Canada building. Floor area, 477 square feet.
Occupied by.. .. .. Excise Inland Revenue.
Lessor.. .. .. Imperial Canadian Trust Co.
Term expires.. .. .. November 1, 1916.
Rent.. .. .. $600 per annum.
Lessors pay taxes, heating, cleaning and power for elevator.
Lessee pays lighting.

No. 216.—Saskatoon, Sask... .. .. Suite No. 414 in Canada Life building, corner 21st street and 1st ave. Floor area 310 square feet.
Occupied by.. .. .. Superintendent Railway Mail Service and Staff.
Lessor.. .. .. Imperial Canadian Trust Co.
Term expires.. .. .. May 1, 1917, with option to renew for one year on same terms by giving 3 months' notice.
Rent.. .. .. $249 per annum.
Lessors pay all taxes, water, heating, janitor and elevator service.

No. 217.—Saskatoon, Sask... .. .. Ground floor, lessor's building, corner 23rd street and second avenue; floor area, 3,700 square feet.
Occupied by.. .. .. Customs.
Lessor.. .. .. Chester Thompson.
Term expires.. .. .. December 12, 1916.
Rent.. .. .. $350 per month.
Lessor pays taxes, water, heating and cleaning.

No. 218.—Saskatoon, Sask... .. .. Northwest corner of 3rd avenue and 22nd street, in new fireproof building with basement and ground floor only.
Occupied by.. .. .. Lands office.
Lessor.. .. .. Wilson Bros.
Term expires.. .. .. October 1, 1916.
Rent.. .. .. $200 per month.
Lessors pay taxes, water, and heating.
Lessee pays lighting and caretaking.

No. 219.—Sherbrooke, Que... .. .. Whole of first floor of a building, bearing civic Nos. 3, 5 and 7, Albert street. Floor area, 2,714 square feet. Rent equals 36 cents per square foot.
Occupied by.. .. .. Post Office Inspector.
Lessor.. .. .. E. J. L. Page and James R. Sangster, carrying business as Page Printing and Binding Co.
Term expires.. .. .. September 15, 1918, with option to renew for five years on same terms and conditions; but lessees have privilege to terminate present lease on September 15, 1917, or the renewal thereof at the end of third or fourth year of said renewal period by giving lessors three months' notice in writing, three months previous to May 1, 1917, or previous to the expiration of said fourth year, notice in writing of his intention to terminate this lease at said date or the renewal thereof at the end of the third or fourth year.
Rent.. .. .. $996 per annum.
Lessors pay taxes, water, insurance, heating, cleaning, including halls and provide power for freight elevator, which can be used day and night in common with other tenants.

No. 220.—Sherbrooke, Que... .. .. Portion of top floor and use of two vaults in lessor's building. Floor area, 1,863 sq. ft.
Occupied by.. .. .. District Engineer, Public Works Department.
Lessor.. .. .. Quebec Central Railway.
Term expires.. .. .. February 1, 1917, with option to renew for two years on three months' notice in writing, prior to expiry of lease.
Rent.. .. .. $1,400 per annum.
Lessors pay taxes, water, heat, cleaning, elevator service.

No. 221.—*Shoal Lake, Man.*.. .. ..Front room in Town Hall 16 x 35 feet and exclusive use of vault.
Occupied by.. .. ..Post office.
Lessor.. .. ..Town of Shoal Lake, Man.
Term expires.. .. ..March 1, 1918, with option to renew for 3 years on 3 months' notice prior to expiry of lease.
Rent.. .. ..$360 of which Postmaster pays $180 and Government $180.
Lessors pay taxes, water, heating, lighting, snow cleaning and janitor.

No. 222.—*Sturgeon Falls, Ont.*.. .. ..Ground floor of a brick building 24 x 80 feet = 1,920 square feet.
Occupied by... .. ..Post Office.
Lessor... .. ..Azaire Adulphe Aubin.
Term expires.. .. ..November 1, 1917, and renewable thereafter from year to year for a further period of three years if required by lessee.
Rent.. .. ..$900 per annum, of which the postmaster pays $250 and the Department $650.
Lessor pays all taxes, heating and lighting.

No. 223.—*Swan River, Man.*.. .. ..Southwest corner room in lessor's law office.
Occupied by.. .. ..Immigration.
Lessor.. .. ..Benjamin E. Rothwell.
Term expires.. .. ..September 6, 1916.
Rent.. .. ..$15 per month.
Lessor pays heat and light.

No. 224.—*Swift Current, Sask.*.. .. ..Two stores on ground floor of building situated on south half of lot No. 8 in block 49, facing on 1st ave. E. Floor area, 2,640 square feet.
Occupied by.... .. ..Dominion Lands, Interior Department.
Lessor.. .. ..Archibald Galbraith.
Term expires.... .. ..November 17, 1917.
Rent.. .. ..$100 per month.
Lessor pays all taxes, water and heating.

No. 225.—*Swift Current, Sask.*.. .. ..2,075 square feet on ground floor and 587 square feet of basement of lessor's building situated on lot 18, block 55.
Occupied by.... .. ..Post Office.
Lessor.. .. ..Jas. A. Yager. Lease assigned to Western Trust Co. on February 17, 1916.
Term expires.... .. ..November 20, 1917.
Rent.. .. ..$105 per month.
Lessor pays all taxes, water, heating, cleaning and caretaking.

No. 226.—*Sydney, N.S.*.. .. ..Room 3 and 4a in "Post Building," Dorchester street. Floor area, 568 square feet.
Occupied by.... .. ..A. G. McLeod, Inspector of Fisheries.
Lessor... .. ..J. S. McLennan.
(Sydney Post Publishing Co. on April 17, 1916, advise us that since January 1, 1916, they hold the lease of entire building and are entitled to rentals from that date.)
Term expires... .. ..October 1, 1916.
Rent.. .. ..$360 per annum.
Lessor pays all taxes, water, snow cleaning, heating, lighting and janitor service.

No. 227.—*Sydney, N.S.*.. .. ..Room 5 in Post building, Dorchester street.
Occupied by.. .. ..V. Mullins, sub-agent Marine and Fisheries.
Lessor.. .. ..J. S. McLennan, of Petersfield, Sydney, N.S.
(Sydney Post Publishing Co. on April 17, 1916, advise us that since January 1, 1916, they hold the lease of the entire building and are entitled to rentals from that date.)
Time expires.. .. ..May 1, 1918..
Rent.. .. ..$180 per annum.
Lessor pays taxes, water, snow cleaning, heating and janitor service.

No. 228.—*Three Rivers, Que.*.. .. ..Office in lessor's residence.
Occupied by.. .. ..Consulting Engineer Berlinguet.
Lessor.. .. ..F. X. Berlinguet.
Term expires.. .. ..When new pulbic building is completed.
Rent.. .. ..Free of charge.

SESSIONAL PAPER No. 19

No. 229.—Three Rivers, Que. . . . . . First floor of a building, corner Notre Dame and St. Antoine streets. Floor area, 35 by 23 feet.
Occupied by. . . . . Post Office Inspector.
Lessor. . . . . Knights of Columbus Council 1001.
Term expires. . . . . May 1, 1919. Five years lease from May 1, 1914, with option to lessee to terminate at expiry of each year on 3 months' notice in writing prior to end of year.
Rent. . . . . $420 per annum.
Lessor pays taxes, water and heat.

No. 230.—Tignish, P.E.I. . . . . . 9,542 square feet of land at Tignish.
Occupied by. . . . . Site for Post Office.
Lessor. . . . . Canadian Government Railways.
Term expires. . . . . On written notice by lessors.
Rent. . . . . $1 per annum.
Lessee pays all taxes of whatever description.

No. 231.—Toronto, Ont. . . . . . Offices Nos. 542, 543, 544, 545, and vaults Nos. 125, 126 and 127.
Occupied by. . . . . District Engineer.
Lessor. . . . . Confederation Life Association.
Time expires. . . . . September 14, 1916.
Rent. . . . . $2,500 per annum.
Lessors pay taxes, water, heating, caretaking, and provide use of elevators.

No. 232.—Toronto, Ont. . . . . . Space on second floor of T. Eaton Co.'s mail order building on Albert street. Floor area, 726 square feet.
Occupied by. . . . . Sorting of parcel mail.
Lessor. . . . . T. Eaton & Co., Ltd.
Term expires. . . . . On three months' notice by either party.
Rent. . . . . Free of charge.
Lessors pay heat and light.

No. 233.—Toronto, Ont. . . . . . Part of water lot No. 48, on registered plan 5a, S.W. corner of Front and Lorne streets, with company's building thereon.
Occupied by. . . . . P.O. Station "A."
Lessor. . . . . Grand Trunk Railway.
Term expires. . . . . Month to month. Railway to have right to terminate lease by giving one month's notice in writing—changed to three months' notice when additional space taken, September 2, 1910.
Rent. . . . . $200 per month.
Lessors pay taxes.
Premises to be vacated.

No. 234.—Toronto, Ont. . . . . . Additional space in Union Station building, beyond space now occupied.
Occupied by. . . . . P.O. Station "A."
Lessor. . . . . Grand Trunk Railway.
Term expires. . . . . Month to month. Lease of whole of premises now to run from month to month to be terminated by either on three months' notice in writing.
Rent. . . . . $100 per month.
Lessors pay heating and lighting.

No. 235.—Toronto, Ont. . . . . . Part of Union Station with use of lavatories.
Occupied by. . . . . Immigration.
Lessor. . . . . Grand Trunk Railway Co.
Term expires. . . . . Year to year from January 1, but lessors have right to terminate at any time on one month's notice in writing.
Rent. . . . . $1,000 per annum.
Lessors pay taxes (except taxes on personal property, which lessees pay) heat and light.
Lessees pay water.

No. 236.—Toronto, Ont. . . . . . Ground floor of a three-story brick building on west side of Main street, East Toronto, with right of way over the yard from rear entrance to lane and right of way over the lane in rear to Gerard street.
Occupied by. . . . . Postal Station "H."
Lessor. . . . . Andrew McMillan and Wm. Costain.
Term expires. . . . . October 1, 1918.
Rent. . . . . $75 per month.
Lessors pay all taxes and heating.

No. 237.—*Toronto, Ont*.. .. .. Ground floor and basement of premises S.W. corner of Bloor and Markham streets.
Occupied by.. .. .. Postal Station "E."
Lessor.. .. .. Alexander Mullin.
Term expires.. .. .. August 1, 1916, with option to renew for three years on same terms.
Rent.. .. .. $1,440 per annum.
Lessor pays taxes and heating.
Lessee pays water.

No. 238.—*Toronto, Ont*.. .. .. Portion of premises in Rossin House block—store No. 121 King street west, with basement beneath same.
Occupied by.. .. .. Postal Station "B."
Lessor.. .. .. Rosin House Hotel Co.
Term expires.. .. .. August 8, 1915. Renewal pending.
Rent.. .. .. $1,800 per annum.
Lessors pay special taxes and heating.
Lessee pays water.

No. 239.—*Toronto, Ont*.. .. .. Space containing 1,500 square feet in basement of lessor's mail order building, 156 Front street West.
Occupied by.. .. .. Sorting of Parcel Mail.
Lessor... .. .. The Robt. Simpson Co., Ltd.
Term expires.. .. .. On three months' notice by either party.
Rent.. .. .. Free of charge.
Lessors pay heat and light.

No. 240.—*Toronto, Ont*.. .. .. That certain parcel or tract of land composed of parts of lots 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14, block "A," and lanes in rear of said lots on south side of Front street.
Occupied by.. .. .. The purposes of erecting thereon a building to be used by the lessee for postal and other Government purposes.
Lessor... .. .. Toronto Terminals Railway Co.
Term expires.. .. .. September 1, 1936, to be renewed at end of every 21 years at such rental per annum as the premises shall then be worth.
Rent.. .. .. $17,000 per annum.
All taxes by lessee.

No. 241.—*Transcona, Man*.. .. .. Ground floor and basement of central portion of building on lots 22, 23 and 24, in block 22, and grounds in connection with same
Occupied by.. .. .. Post Office.
Lessor.. .. .. Wm. McFarlane.
Term expires.. .. .. April 1, 1918.
Rent.. .. .. $900 per annum—$650 paid by the Department and $250 by postmaster.
Lessor pays taxes, water, heat, light and cleaning.

No. 242.—*Trois Pistoles, Que*.. .. .. Portion of ground floor Town Hall building.
Occupied by.. .. .. Post Office.
Lessor... .. .. Town of Trois Pistoles.
Term expires.. .. .. Yearly on October 1.
Rent.. .. .. $100 per annum.
Lessors pay taxes, removal of snow. Postmistress pays water, heating, lighting and cleaning.

No. 243.—*Unity, Sask*.. .. .. Lots 27, 28 and 29, block 6, in townsite of Unity.
Occupied by .. .. Immigration building.
Lessor.. .. .. Grand Trunk Pacific Development Co.
Time expires.. .. .. April 1, 1931, with option to renew for 21 years more at same rental.
Rent.. .. .. $1 per annum.

No. 244.—*Vancouver, B.C*... .. .. Rooms 614, 615, 616, 617 and 618 on sixth floor, Birks' building; 1,125 square feet equals $1.15 per square foot.
Occupied by.... .. .. Superintendent of Dredges.
Lessor... .. .. Wm. Massey Birks, John Henry Birks and Gerald Walker Birks, Montreal.
Time expires.. .. .. November 30, 1916.
Rent.. .. .. $1,296 per annum.
Lessors pay all taxes, water, light to extent of 29 lamps of 25 watts, janitor and elevator service.

SESSIONAL PAPER No. 19

No. 245.—*Vancouver, B.C.*.. .. .. Two rooms. Empire building, 603 Hastings street, W. Vancouver. Floor area, 748 square feet.
Occupied by .. .. Captain Charles Eddie, Examiner of Masters and Mates.
Lessor.. .. .. Julius A. Brown.
Term expires.. .. .. Monthly at end of each month.
Rent.. .. .. $40 per month.

No. 246.—*Vancouver, B.C.*.. .. .. That tract of foreshore land being a portion of Burrard Inlet, adjoining lot 185, group 1, New Westminster District.
Occupied by.. .. .. Site for Immigration Detention building.
Lessor.. .. .. Canadian Pacific Railway Company.
Time expires.. .. .. The railway company may terminate lease on one year's notice.
Rent.. .. .. Lessee pays all taxes, rates and assessments.

No. 247.—*Vancouver, B.C.*.. .. .. Room in lessor's railway depot, 2,524 square feet at $1.22 per square foot.
Occupied by .. .. Sorting room P.O. Department.
Lessor.. .. .. Canadian Pacific Railway.
Term expires.. .. .. August 1, 1919.
Rent.. .. .. $3,079.28 per annum.
Lessors pay all taxes and heating.

No. 248.—*Vancouver, B.C.*.. .. .. Three rooms on 2nd floor. Chinese detention shed adjacent to shed. No. 1 wharf front, Vancouver, and right of access over lessor's property by usual channels.
Occupied by .. .. Office of Immigration and temporary detention of immigrants and storage.
Lessor.. .. .. Canadian Pacific Railway.
Term expires.. .. .. Year to year from January 1.
Rent.. .. .. $25 per month.

No. 249.—*Vancouver, B.C.*.. .. .. Cavity under sidewalk, situated on east side of Howe street, and having a superficial area of 107 superficial feet.
Lessor.. .. .. City of Vancouver.
Term expires.. .. .. On one month's written notice at any time.
Rent.. .. .. $5.35 yearly.

No. 250.—*Vancouver, B.C.*.. .. .. First, second, third and fourth floors, 249 Hastings street east. Total square feet in this and in premises rented under lease No. 9542—5,814 square feet.
Occupied by .. .. P.O. "B," etc.
Lessor.. .. .. Mrs. Robert Hamilton.
Term expires.. .. .. Monthly.
Rent.. .. .. $335 per month, till new building is ready for occupation. Note—Between this and other premises rented from Mrs. Hamilton, rent for the two not to exceed $600 per month.
Lessor pays water and heating.

No. 251.—*Vancouver, B.C.*.. .. .. Ground floor of building 249 Hastings street.
Occupied by .. .. P.O. Station "B."
Lessor.. .. .. Mrs. Robt. Hamilton.
Time expires.. .. .. April 15, 1918 (lease No. 9542).
Rent.. .. .. $315 per month for the following three years.
Lessor pays taxes, water and heating.

No. 252.—*Vancouver, B.C.*.. .. .. Room in Winch building.
Occupied by.. .. .. Inspector of Taxation.
Lessor... .. .. R. V. Winch & Co., Ltd.
Term expires.. .. .. Month to month.
Rent.. .. .. $15 per month.
Lessor pays heating.

No. 253.—*Verdun, P.Q.*.. .. .. Two floors of two rooms each in lessor's building adjoining Post Office. Floor area, 810 square feet.
Occupied by.... .. .. Letter carriers.
Lessor... .. .. Hector Perrin.
Term. expires.. .. .. December 21, 1917, option to lessee to renew for two years on same terms by giving three months' written notice.
Rent.. .. .. $300 per annum.
Lessor pays all taxes, water, heat, light and caretaking.

No. 254.—Vermilion, Alta. . . . . . Part of lessor's station grounds.
Occupied by . . . . . Site for Immigration Hall.
Lessor. . . . . Canadian Northern Railway Company.
Term expires. . . . . On one month's notice from either lessor or lessee.
Rent. . . . . $1 per annum.
Lessee pays taxes and water.

No. 255.—Victoria, B.C. . . . . . Shelter in one of the freight sheds of C. P. Ry. Co.'s wharf for fumigating plant.
Lessor. . . . . Canadian Pacific Railway.
Time expires. . . . . Monthly.
Rent. . . . . $2.50 per month.

No. 256.—Victoria, B.C. . . . . . Three storey building corner of Langley and Broughton streets, "Ames-Holding Building."
Occupied by. . . . . Temporary Examining Warehouse.
Lessor. . . . . Alexander James Cohoian McDermott.
Term expires. . . . . January 1, 1917.
Rent. . . . . $500 per month.
Lessor pays taxes.
Lessee pays water.

No. 257.—Victoriaville, Que. . . . . . Drain site.
Lessor. . . . . Grand Trunk Railway Company.
Term expires. . . . . Permission may be withdrawn at any time.
Rent. . . . . $1 per annum.
Lessee pays taxes

No. 258.—Viking, Alta. . . . . . Site.
Occupied by. . . . . Immigration Hall site.
Lessor. . . . . Grand Trunk Pacific Development Co.
Term expires. . . . . February 16, 1932, option to renew for further term of 21 years on same terms and conditions.
Rent. . . . . $1 per annum .

No. 259.—Virden, Man. . . . . . School building.
Occupied by. . . . . Immigration.
Lessor . . . . . School District of Virden, Man.
Term expires. . . . . March 15, 1917.
Rent. . . . . $250 per annum.

No. 260.—Wadena, Sask. . . . . . Lots 5 and 6, block 23, corner of Railway avenue and Third street, in townsite of Wadena.
Occupied by. . . . . Immigration.
Lessor . . . . . McKenzie, Mann Co., Ltd.
Term expires. . . . . January 1, 1918. Lessee to vacate at any time on thirty days' notice and proportionate rental to be returned.
Rent. . . . . $1 per annum.
Lessee pays taxes.

No. 261.—Wainwright, Alta. . . . . . Lots 1 and 2 in block 2.
Occupied by . . . . . Site for Immigration Hall.
Lessor. . . . . Grand Trunk Pacific Town and Development Company, Ltd.
Term expires. . . . . September 1, 1929, with option to renew for a further term of 21 years at same rental.
$1 per annum.

No. 262.—Weymouth, N.S. . . . . . Building owned by lessor, west side of Main road and south side of Bridge.
Occupied by. . . . . Post Office.
Lessor . . . . . Thos. C. Rice.
Term expires. . . . . June 1, 1917.
Rent. . . . . $200 per annum, of which $100 is paid by Department and $100 by postmaster.
Lessor pays taxes, heat, light, cleaning and water.

No. 263.—Wilkie, Sask. . . . . . Site for Immigration Hall.
Lessor. . . . . Canadian Pacific Railway.
Term expires. . . . . No lease filed with Department, but rent has been paid yearly in advance to 27th January, 1917.
Rent. . . . . $1 per annum.

No. 264.—Windsor, Ont... Part of lessor's building southeast corner of Ouelette avenue and London street.
Occupied by.. District Engineer, Public Works Department.
Lessor.. Heintzman Co.
Term expires.. October 2, 1919.
Rent.. $1,200 per annum
Lessors pay taxes and heating.
Lessee pays water.

No. 265.—Winnipeg, Man... Extra room in Bawlf building.
Occupied by.. Indian Affairs.
Lessor.. N. Bawlf estate.
Term expires.. Monthly at end of each month.
Rent.. $35 per month.

No. 266.—Winnipeg, Man... Offices on third floor and small storeroom on second floor, Chamber of Commerce building.
Occupied by.. Hydrographic Survey.
Lessor.. N. Bawlf estate.
Term expires.. December 1, 1918, with privilege to lessee to terminate lease at end of third year (December, 1, 1916, or fourth year(December 1, 1917) on three months' notice in writing prior to end of third or fourth year.
Rent.. $225 per month.
Lessor pays all taxes, water, heating, light, insurance, cleaning and elevator service.

No. 267.—Winnipeg, Man... Two rooms in Chamber of Commerce building.
Occupied by.. Gas and Electricity.
Lessor.. N. Bawlf estate.
Term expires.. At any time on thirty days' notice.
Rent.. $70 per month.

No. 268.—Winnipeg, Man... Seven rooms Nos. 400, 402, 404, 240, 210, 208 and 214 in old Grain Exchange building.
Occupied by.. Indian Affairs.
Lessor.. N. Bawlf, estate of.
Term expires.. On one month's notice from first of month in any month.
Rent.. $90 per month.
Lessor pays heat and sweeping.

No. 269.—Winnipeg, Man... Office No. 406 in lessor's building, corner Portage avenue and Edmonton street.
Occupied by.. Archives.
Lessor.. Wm. James Boyd.
Term expires.. March 31, 1917.
Rent.. $45 per month.
Lessor pays all taxes, water, heat, janitor and cleaning.
Lessee pays lighting.

No. 270.—Winnipeg, Man... Office (15 by 16 feet, equals 240 square feet) in Boyd building.
Occupied by.. Inspector of Fisheries.
Lessor.. W. J. Boyd.
Term expires.. Month to month at end of each month.
Rent.. $27 per month.

No. 271.—Winnipeg, Man... Part of second floor of Boyd building, corner of Edmonton street and Portage ave. Floor area, 1,016 square feet.
Occupied by .. Railway Commission.
Lessor.. Wm. J. Boyd.
Term expires.. June 1, 1917.
Rent.. $1,270 per annum.
Lessor pays all taxes, water, heat, light, cleaning, window cleaning and provides elevator and janitor service.

No. 272.—Winnipeg, Man... Private line to Fire Hall, Immigration building, Winnipeg, in connection with Canadian May Oatway Fire Alarm, Ltd., fire alarm system: 1¼ miles at $7.50 per quarter mile.
Lessor.. Canadian May Oatway Fire Alarm Co., Ltd., now Manitoba Government Telephones.
Rent.. $37.50 per year.

No. 273.—*Winnipeg, Man.*.. .. .. Room in lessor's Dominion Express Co. building.
Occupied by.. .. .. Post Office Station "A."
Lessor.. .. .. Canadian Pacific Railway.
Term expires.. .. .. July 11, 1916, but may be ended any time by the lessor on one month's notice in writing to lessee. To be vacated July 11, 1916.
Rent.. .. .. $2,992.66 per annum.
Lessor pays heating and lighting.
Lessee pays taxes.

No. 274.—*Winnipeg, Man.*.. .. .. That messuage and tenement, southwest corner Portage avenue and Aubrey street, being two stores west of corner store in said building.
Occupied by.. .. .. Post Office Station "D."
Lessor.. .. .. C. W. Cooper and W. A. Cooper.
Term expires.. .. .. March 31, 1917, option to renew for one year.
Rent.. .. .. $1,600 per annum.
Lessee pays business taxes, water, heat, light.

No. 275.—*Winnipeg, Man.*.. .. .. Rooms 701, 702, 703 and 704, Notre Dame building.
Occupied by.. .. .. District Engineer and Staff.
Lessor.. .. .. Notre Dame Investment Co., Ltd.
Term expires.. .. .. January 1, 1920.
Rent.. .. .. $1,500 per annum.
Lessors pay taxes, water, heating and janitor service and provide elevator service.

No. 276.—*Winnipeg, Man.*.. .. .. All that messuage and tenement known as 103 Osborne street, "Adelaide Block."
Occupied by.. .. .. Post Office Station "C."
Lessor.. .. .. Sir R. P. Roblin.
Term expires.. .. .. February 1, 1917.
Rent.. .. .. $1,500 per annum.
Lessor pays heating.

No. 277.—*Winnipeg, Man.*.. .. .. Three rooms and vault in Union Bank building. 600 square feet at $1.12½ per square foot.
Occupied by .. .. W. L. Ball, Inspector of War Profits Tax.
Lessor.. .. .. Union Bank.
Term expires.. .. .. One year from date of occupation.
Rent.. .. .. $675 per annum.
Lessors pay heating and janitor service.

No. 278.—*Winnipeg, Man.*.. .. .. Room 28 by 75 feet in the basement of Union Station.
Occupied by.. .. .. Postal purposes.
Lessor.. .. .. Winnipeg Joint Terminals.
Term expires.. .. .. September 1, 1917, with option of renewal of a further term of five years on same conditions.
Rent.. .. .. $2,416 per annum.
Lessors pay taxes, heating and lighting.

CHIEF ENGINEER'S REPORT

ON

HARBOUR AND RIVER WORKS

INCLUSIVE OF

GRAVING DOCKS AND DREDGING OPERATIONS; ALSO ROADS, BRIDGES AND SURVEYS THROUGHOUT THE DOMINION.

REPORT OF THE CHIEF ENGINEER.

DEPARTMENT OF PUBLIC WORKS OF CANADA,
CHIEF ENGINEER'S OFFICE,
OTTAWA, September 21, 1916.

R. C. DESROCHERS, Esq.,
Secretary,
Department of Public Works.

SIR,—I have the honour to submit the annual report on the various works under my charge during the fiscal year ended March 31, 1916.

These works comprise the construction and repair of wharves, piers, breakwaters, dams, weirs, bank and beach protection works; the improvement of harbours and rivers by dredging; the construction, maintenance and operation of Government dredging plant; the construction and maintenance of graving docks; the construction, maintenance and working of slides and booms; the construction and maintenance of interprovincial bridges and approaches thereto, and of bridges on highways of Federal importance in the Northwest Territories, and the maintenance of military roads; also hydrographic and ordinary surveys and examinations, inclusive of precision levelling and geodetic measurements which are required for the preparation of plans, reports and estimates; the testing of cements, etc.

I have the honour to be, sir,
Your obedient servant,

EUG. D. LAFLEUR,
Chief Engineer.

PROVINCE OF NOVA SCOTIA.

ABERCROMBIE POINT.

Abercrombie point is on the south side of Pictou harbour, a mile distant from Pictou town, and on the opposite side of the harbour. The dredging was undertaken to permit the subsidized ferryboat, running between this wharf and Pictou, to dock at L.W.S., and in deepening to 10 feet, at L.W.O.S.T., a basin extending 50 feet outwards from the sides and the end of the outer block, together with a passage 35 feet in width to the harbour channel 950 feet distant.

The work was performed by the departmental dredge *No. 4* between June 18 and June 23, 1915, and involved the removal of 2,121 cubic yards, *in situ*, or 2,535 cubic yards, scow measurement, of soft clay, which gives an expansion factor of 19·5 per cent. The channel will probably remain navigable for the ferryboat for a period of from five to ten years.

ADVOCATE.

Advocate is an important town in Cumberland county, situated on Graville bay, 30 miles southwest of Parrsboro, with a population of 1,000. The chief industries are farming, lumbering, mining and fishing. During the fiscal year 1898-99, and 1899-1900, $2,765.41 was expended in constructing a pile wharf. In the year 1900-01, an additional sum of $431.82 was expended in sheathing this wharf. In the year 1904-5, this work was widened an additional 12 feet. In the year 1910-11, the covering was replaced on this work; so that the wharf was 360 feet in length, 32 feet wide, with the exception of the head which was 40 feet long and 42 feet wide. It has a height of from 12 to 16 feet. It is constructed of pile trestle bents 10 feet apart, thoroughly braced, bolted and waled. During the past year, this wharf was further extended a distance of 100 feet in length, with a common width of 42 feet. The new portion of this work was of the same character of construction as the remainder of the wharf, namely, pile trestle bents separated from each other longitudinally 10 feet, measured centre to centre of pile head. Besides the extension, about one-half of the outside stringers on the old work were replaced, a small portion of the planking was renewed, and 12 new fenders were added. The total amount expended was $2,206.17. The height of the work on the outside end of the extension is 18 feet, so that this wharf can now accommodate two vessels with two feet additional draught of water. Work was begun July 1, 1915, and completed September 22, 1915. Tides rise here, spring 38 feet, neap 31 feet.

AMAGUADEES POND.

(This work is described in the annual report for 1914.)

Amaguadees pond, Castle bay, Cape Breton county, is on the northern side of East bay, the eastern arm of the Great Bras d'Or lake.

During the fiscal year 1915-16, the sum of $200.29 was expended by day labour in renewing part of the covering of the inner end of the wharf, and in strengthening and repairing the bridge across the outlet of the road.

AMHERST.

Amherst harbour is situated at the head of the Bay of Fundy, at the mouth af the La Planche river. The site of the dredging operation is about 2½ miles in a direct line from Amherst town, and four miles by post road. The population of Amherst, which is the county seat of Cumberland, is about 12,000.

The shipping at this port ordinarily consists of tern or three-masted schooners and steamers, the steamers being from six to twelve hundred tons burden.

The entrance to this harbour is contracted, and in the fiscal years 1911-12, and 1912-13, a small contract was let for the removal of material from a point near the entrance to the harbour. Conditions in this harbour are peculiar; each tide deposits on the banks or on any obstructive point in the river, a certain amount of sand or clay, so impregnated is the water with this material that on some tides as much as three-eights of an inch of this silt has been deposited by observation at a certain selected location. After considerable examination into the conditions, it was decided that a small dipper dredge with two scows should be permanently employed with a view of removing each year's accumulation and gradually cutting off the points jutting out into the river, so that with a straight channel, the current will be sufficiently strong to keep the material from being deposited in such a manner as to further obstruct navigation.

During the past fiscal year, dredge *No. 14* has been engaged in removing a portion of one of these points. Dredging commenced on May 31 and was suspended on November 25, 1915; when 18,430 cubic yards of material were removed. 1,060 yards represented the amount removed from the bed on the outside of the pier; the remainder, 17,370 yards being removed from the said point. During the past fiscal year, a trape-

zoidial area 30 feet wide, with a base 680 feet in length (the former base line being 580 feet in length) has been removed. The average depth of this cutting was about 19 feet. There was probably removed from the old cutting, as near as could be estimated, about 1,500 cubic yards, so that the expansion factor would be very nearly 20 per cent. There still remains to be removed from this point a strip about 25 feet wide, with a base 760 feet long, and an average depth of nearly 22 feet.

The material removed is largely clay; the top four feet of this is fairly easy of removal but beyond that depth it becomes quite hardened and consequently much more difficult to excavate.

Spring tides rise here 40 feet, neap 38 feet.

AMHERST POINT.

Amherst point is a farming settlement of some 400 people, situated about three miles south of Amherst town. At the end of the year 1907-8, a cribwork wharf was completed at this place. In the year 1912-13, $503.37 was expended in repairing the outside face of the outside blocking of this work.

During the past fiscal year, the piles were cut by moving ice and a number of the mattresses, which had been laid in 1912-13, were destroyed. Scouring took place, and the entire outside portion of the wharf settled, spilling out a large portion of the ballast. During the year, $190.52 was expended in temporary repairs.

There is a ferry slip on the inside of the wharf, from which a gasoline ferry operated between Amherst and Minudie. The work done during the past fiscal year consisted of sheathing with hardwood plank the corner of this work, 15 feet on each side of it, so as to avoid further damage from moving ice. This work was commenced on October 27, and completed on November 18, 1915. Spring tides rise here 40 feet, neap 33 feet.

ANNAPOLIS ROYAL.

(This work is described in the annual report for 1914).

Annapolis Royal, Annapolis county, is the oldest town in the province of Nova Scotia, having been founded in 1605. It is beautifully situated at the head of Annapolis basin, and on the south side of the Annapolis river. It has a population of about 2,000, and in the centre of one of the most fertile districts of Nova Scotia.

In 1915-16, the sum of $90.63 was expended in miscellaneous and emergent repairs to the floor of the wharf, in which a number of looose and decayed planks were renewed.

ANDERSON'S COVE.

(This work is described in the annual report for 1915).

Anderson's cove, Annapolis county, is a very slight indentation in the coast line on the south side of the Bay of Fundy, 15 miles east of Digby Gut, 2 miles east of Litchfield and 5 miles west of Parker's Cove. The settlement, which is called Hillsburn, comprises, within a radius of a mile, about 150 people, dependent almost exclusively on the fisheries for a living.

In 1915-16, the sum of $299.94 was expended in emergent repairs to the covering and sheathing.

ARISAIG.

(This work is described in the annual report for 1915.)

Arisaig is on the south-eastern shore of Northumberland strait, about 15 miles south-west from Cape George.

During the fiscal year 1915-16, the sum of $2,022.26 was expended in placing two concrete blocks, 5 by 5 by 10 feet in length on the seaward side of the wharf. During a heavy storm and an exceptionally high tide, while the work was in progress, both

blocks were destroyed. In order to protect the seaward face and outer end of the wharf, the face-chambers, for a distance of 60 feet along the seaward face and across the outer end, were filled with concrete from low water level to the under side of the covering. About 60 feet of the seaward side of the work, 20 feet in width and 10 feet in average height, was reconstructed before placing the concrete.

Work was in progress in May, August, September, October and November.

BADDECK.

(This work is described in the annual report for 1915.)

Baddeck, the shiretown of Victoria county, is on the northern shore of the Little Bras D'Or lake, near the entrance to St. Patrick's channel.

During 1914-15, the sum of $624.86 was expended by day labour in the partial renewal of covering, cap-timbers and upper fenders on the wharf, and during the present fiscal year the sum of $499.91 was expended in completing the renewal of the top work of the wharf, commenced during 1914-15.

BAKER'S POINT.

(This work is described in the annual report for 1914.)

During 1915-16, the sum of $99.86 was expended in buying posts and wire to replace the fence along the right-of-way to the wharf, and timber for some minor repairs to be made to the wharf. The present dimensions of this structure: Approach, 61 feet by 25 feet, pilework 94 feet by 25 feet, and ell on outer end 31 feet by 41 feet, giving a face length of 66 feet.

BASS RIVER.

(This work is described in the annual report for 1915.)

Bass River, Colchester County, is a farming and manufacturing village of about 500 people, situated at the north side of Cobequid bay, the eastern arm of the Bay of Fundy. It is half way between Truro and Parrsboro or about 28 miles from either place.

During the year 1915-16, the sum of $1,020.17 was expended in general repairs, consisting of placing new piles, splicing and strengthening some of the piles that could not be removed, placing some new fenders, replanking the top, and placing new guard timbers and repairing approach.

The present dimensions of this wharf are as follows: From the approach, which has a length of 25 feet and width of 25 feet, the wharf runs for a distance of 210 feet, 25 feet wide. At the outer end on one side it has an ell 45 by 40 feet, and at the other side an ell 40 by 66 feet. This gives a face length of 110 feet.

Work commenced November 15 and completed January 6.

BIG HARBOUR.

(This work is described in the annual report for 1915.)

Big harbour, or Port Bevis, Victoria county, is on the northern side of the Great Bras d'Or channel, about 15 miles to the westward of its entrance into the Atlantic.

During 1915-16, the sum of $399.87 was expended in the renewal of the top of the wharf, consisting of the placing of new floor-stringers, covering, cap-timbers and upper fenders.

BIG POND.

Big Pond, Cape Breton county, is on the south side of East bay, the eastern arm of the Great Bras d'Or lake, about thirteen miles from the head of the bay, and twenty-five miles south-eastward from the city of Sydney.

On January 4, 1904, a contract was entered into in the sum of $7,720, for the construction of a wharf, with approach thereto from the public road. The work was commenced on June 30, and completed in a satisfactory manner on October 8, 1904.

It consists of a block and span structure, extending to 11 feet at low water, and road 223 feet in length. The wharf is 254 feet in length and 20 feet in width, with an "L" on the north-eastern side of the outer end, 25 feet long and 24 feet wide, and is made up of a shore abutment 50 feet long, of four blocks 20 feet long, and of an outer block 24 feet by 48 feet, with openings between them, 18 feet in length. The abutment and blocks are constructed of round timber, with creosoted timber substructure, fully ballasted and fendered and the faces of the two outer blocks are protected with close-sheathing.

During the year 1915-16, the sum of $350 was expended in placing over the original covering of the wharf, a drive-way 12 feet wide from the shore end to the end block, a distance of 160 feet, consisting of 2-inch planking; the guard-rails on each side of the wharf over the same distance, were renewed, and a freight-shed 12 by 14 feet was erected on the outer end of the wharf.

BLACK POINT.

(This work is described in the annual report for 1914.)

Black Point, Richmond county, is on the southern or Atlantic shore of the Island of Cape Breton, about 15 miles to the eastward of the entrance to St. Peter's canal.

During 1915-16, the sum of $450 was expended in placing large quarried stone along the outer face of the breakwater.

BOULARDARIE CENTRE.

(This work is described in the annual report for 1915.)

Boulardarie Centre, Victoria county, is on the southern side of the Great Bras d'Or channel, about 8 miles to the westward of the entrance into the Atlantic ocean, and 10 miles to the eastward of its entrance into the Little Bras d'Or lake.

During the year 1915-16, the sum of $154.85 was expended in repairs to the road leading to the wharf, and in filling in of the bridge.

BROAD COVE.

Broad Cove is a fishing village of 350 people, situated on the Atlantic coast of Lunenburg county, and distant 25 miles by road from Bridgewater, and 8 miles from the county line station on the H. & S. W. railway. It has telephone connection, one church and two stores.

The breakwater, which affords shelter to about twenty fishing boats, was built in 1876, by day labour, at a cost of $4,000, of which $3,000 was contributed by the Federal and $1,000 by the Provincial government. It is a well built structure of close-faced stone-filled cribwork. The approach is 70 feet long, the cribwork 247 feet, and the work has a width on top of 22 feet. In 1894, the sum of $499.99, in 1901 the sum of $499.93, and in 1911 the sum of $297.39, were expended in repairs to this structure. The expenditure for 1911 also included the removal of a bar of stone and gravel near the head of the wharf.

During the fiscal year 1915-16, on account of the ballast floors and outer end of the work being eaten through by the teredo, at L.W.O.S.T., allowing the ballast to fall out, it was necessary to construct a new block at the outer end of the work. It is built the width of the work and 12 feet in length. At the shore end of the wharf new fenders were placed, and stringers, cross ties and planking were renewed where necessary. The total cost of the work, this year, $1,500.87. The work now has a total length of 329 feet.

Work commenced September 24 and completed March 29.

BURLINGTON.

(This work is described in the annual report for 1913.)

Burlington, Hants county, is a farming settlement, with a population of 350 people, situated on the right bank of the Kennetcook river, five miles north of the county town of Windsor.

The work is now 224 feet long by 25 feet wide with an ell 28 feet wide and 34 long, giving a face length of 59 feet. It is built of cribwork, block and span construction, and has an average height of 18 feet.

In the year 1915-16, the sum of $16.42 was expended in making some temporary repairs to the floor of the wharf.

Work started August 10 and completed August 30.

CABBAGE GUT.

Cabbage gut, Lunenburg county, is a channel between Middle island on the south and Cabbage island, on the north of the La Have island group, about fifteen and a half miles, in a southerly direction, from the town of Bridgewater.

During the season 1913-14, the department opened the channel to a depth of 4 feet, in order to shorten the run between the islands, and for the convenience of fishing boats. 1,500 cubic yards of mud were removed, by day labour and hand dredging, at a cost of $598.23.

During the fiscal year 1915-16, the channel was widened 12½ feet, the length being 1,000 feet and the depth of cutting 3 feet. 1,520 cubic yards place measurement were removed, by day labour and hand dredging, at a cost of $599.62.

The work as completed has a length of 1,000 feet and a width of 25 feet, to a depth of 4 feet below L.W.O.S.T. The material removed this year consisted of mud, the period of operations being from September 16 to October 13.

The improvement should last for a number of years, but in order to keep the channel open for boats, an annual outlay of about $100 will probably be required.

CANADA CREEK.

(This work is described in the annual report for 1912).

Canada Creek, Kings county, also called Black Rock, is a fishing and farming village, of about 150 people, on the south shore of the Bay of Fundy, sixty miles east of Digby gut, nine miles northwest from Waterville station, on the Dominion Atlantic Railway, and eight miles west of Hall's Harbour.

In 1915-16, the sum of $40.32 was expended in filling a hole, about 10 feet square and 10 feet deep, in the floor of the breakwater, caused by seas washing out the top ballast.

CANNING.

(This work is described in the annual report for 1915).

Canning, Kings county, is a prosperous village of about 1,500 people, mostly engaged in farming and fruit raising, situated on the north bank of the Habitant river, which, 2½ miles below, debouches into the Basin of Minas.

In 1915-16, the sum of $797.18 was expended in repairs and renewals to the steamer bed in front of the wharf, and the renewal of stringers and flooring on its eastern side, over an area 100 feet long and 20 feet wide.

CANSO.

Canso, Guysborough county, an important fishing centre on the southern shore of Nova Scotia, at the entrance to Chedabucto bay, 32 miles from the town of Guysborough and 30 miles from Mulgrave. Population, 1,750.

Dredging was undertaken with the object of cutting down and removing, to a depth of 16 feet at L. W. S., the rock shoal located within Canso harbour, at the east of Whitman's wharf, in order to provide an easy and safe passage to the pier, which is used as a public wharf.

The work undertaken involved the removal of 4,481 cubic yards *in situ*, 4,091 cubic yards, class "A," and 390 cubic yards, class "B," over an area of 29,000 square feet, with an average cut to grade of 3·2 feet.

During the season 1915-16, the departmental rockbreaker *Lobnitz No. 3* worked over this shoal from August 17 to October 26. The departmental dredge *No. 6* followed this plant, working from December 20 to January 3. Quantity of class "A" broken and removed, 285 cubic yards, *in situ*, and class "B" dredged 400 cubic yards, *in situ*. Expansion factor of class "A" 75 per cent, and of class "B" 20 per cent.

CAPE NEGRO.

Cape Negro is a scattering settlement situated about five miles south of Port Clyde, having a population of about 300, ranging along two miles of territory. To grant proper and suitable accommodation for these people, during the fiscal year 1913-14, $1,489.49 was expended in commencing the construction of a wharf; and during the past fiscal year, $889.68 was expended in practically completing the same.

This wharf consists of a rock bank 94 feet long, 20 feet wide on top, a span 21 feet long, 3 cribs, each 20 feet long, separated by two spans, each 15 feet long, and an additional crib 20 feet in length, separated from the former cribs by a span 18 feet in length. The last crib is 31 feet in width, whilst the remainder of the cribs are 16 feet in width. During the past fiscal year, the outside two cribs were constructed, and the whole wharf planked, stringered and put in proper condition for the landing of supplies, etc. It has a height at the outer end of 17 feet. Work was commenced November 15 and completed December 17, 1915. Spring tides rise here 8 feet, neap 5½ feet.

CARIBOU HARBOUR.

Caribou harbour, Pictou county, is on the Northumberland strait, six miles to the northwest of Pictou. Dredging was undertaken to permit motor boats to approach Murdock and Logan's wharf at all stages of tide; and consisted of excavating a channel to a depth of 8 feet at L.W.O.S.T. (the least the dredge could perform) 50 feet in width, and extending from the head of the wharf 450 feet outwards to the harbour channel, together with an enlargement near the head of the wharf, which forms a small turning basin.

The work was performed by the departmental dredge *No. 4*, between June 25 and July 7, 1915, and involved the removal of 5,900 cubic yards, *in situ*, of clay, which includes about 300 cubic yards left overcast at the inner end. The captain's weekly reports return 6,727 cubic yards, scowed away, which includes about 1,800 cubic yards of the total 2,100 cubic yards overcast. This gives an expansion factor of 21 per cent. No dredging was performed below subgrade. This channel and basin will probably remain open for twenty years.

CARR'S BROOK.

(This work is described in the annual report for 1914.)

Carr's Brook, Colchester county, a farming and lumbering district, situated three miles west of Central Economy and 28 miles west of Great Village, with a population of about 150, whose chief industries are farming, fishing and mining.

In the year 1915-16, the sum of $10.07 was expended in constructing a small brush and stone protection work to divert the course of the brook, which flowed down

past the end of the breakwater and endangered the structure, tending to undermine the outer end of it. There will have to be a more permanent work put here next year, as the ice came in before the foreman was able to finish the job.

Work done in December.

CHEBOGUE HARBOUR.

(This work is described in the annual report for 1914.)

Chebogue harbour, Yarmouth county, is situated about 7 miles south of the town of Yarmouth.

In 1915-16, the sum of $150 was expended in straightening and deepening, by hand digging, the boat channel through the mud flats in the upper part of the harbour. The digging was comprised within a length of about a quarter of a mile, and was carried to a depth of about 2½ feet below L.W.O.S.T. The quantity was not measurable in cubic yards.

CHETICAMP POINT.

Cheticamp point, Inverness county, is the southern extremity of Cheticamp island, about one mile to the westward of a beach of shingle, closing the south end of Cheticamp harbour, which lies between the island and the mainland, and which is entered from the north.

A contract was entered into on July 16, 1903, for the construction of a breakwater, extending to 5 feet at extreme low water, for the sum of $13,880.

The work was commenced in May, 1904, and completed on September 23 of the same year.

The breakwater is 370 feet long and 20 feet wide, and consists of 20 feet of stone embankment, 80 feet of stone abutment, and 270 feet of round timber cribwork, with creosoted timber substructure, fully ballasted, fendered and close-sheathed, on the seaward face, for a distance of 96 feet from the outer end, on the outer end and on the inner face for a distance of 48 feet from the outer end.

During the fiscal year 1915-16, the sum of $99.50 was expended in recovering a portion of the wharf, and in refilling ballast that had been washed out.

COMEAU'S COVE.

(This work is described in the annual report for 1915.)

Comeau's Cove, Digby county, is a fishing and farming settlement of about 100 people, situated on the shore of the mouth of St. Mary's bay, Bay of Fundy, about 1½ miles south of Meteghan.

In 1915-16, the sum of $1,531.94 was expended in extensive repairs and renewals to the breakwater, rendered necessary by a serious damage done by heavy seas in the early part of the winter. The situation of this breakwater is one of the most exposed on the whole coast between Digby and Yarmouth, and annual repairs and renewals will probably be necessary to maintain the work.

COMEAU'S HILL.

(This work is described in the annual report for 1915.)

Comeau's Hill, Yarmouth county, is the name of a straggling settlement of some two or three hundred people, situated on the west side of, and close to the extremity of, the peninsula between Chebogue harbour and Goose bay, about fifteen miles southwest from Yarmouth, the county town.

In 1915-16, the extension to the breakwater was completed, and the final estimate forwarded on the 5th of July, 1915.

COW BAY.

(This work is described in the annual report for 1915.)

Cow Bay (Port Morien), Cape Breton county, is on the east coast of Cape Breton island, about 18 miles to the eastward of the entrance to Sydney harbour.

During the year ended March 31, 1916, the sum of $1,850.54 was expended by day labour on procuring a derrick with winch, and in constructing and placing large concrete blocks along the seaward face of the breakwater, over a distance of 53 feet, thereby completing the concrete blocks protection on the seaward face of the breakwater.

CROSS ISLAND.

Cross island, Lunenburg county, is situated at the mouth of Lunenburg bay about nine miles in a southeasterly direction from the town of Lunenburg. There is a permanent population of 64 people, dependent wholly upon the fishing and lobstering industries. During the summer months, however, about twenty boats from the mainland make their headquarters at this island, swelling the population during the season to about twice the usual number. About forty boats fish from this place during the summer season, employing from sixty to seventy men, who average about $500 each per year.

This island possesses a harbour which is a very sheltered mooring place for boats during any kind of a storm, but to approach it from the southeast, during a storm from that quarter, was a very dangerous undertaking. To overcome the disadvantage a cut was made through from the Lunenburg bay side to the harbour to provide an optional entrance for the fishermen.

The work accomplished has a length of 520 feet and an average width of 16 feet. The depth of cutting necessary, to give a depth below L.W.O.S.T. of 6 feet, averaged 5 feet. Dredge *P. W. D. No. 15,* was employed, removing 1,541 cubic yards, place measurement, of hard, cemented gravel, having an expansion factor of 31·4 per cent, making a scow measurement of 2,025 yards. The cost of operations this season amounted to $1,117.07. Work has commenced on July 21 and completed August 28.

Dredging could only be carried on during high tide and some difficulties were also met with owing to the narrowness of the channel, a great bulk of the material having to be overcast and afterwards carted inland, where it could not wash back into the channel. The probable duration of the improvement effected will be four or five years.

D'ESCOUSSE.

(This work is described in the annual report for 1915.)

D'Escousse, Richmond county, is a thickly settled district on the north-eastern coast of Madame island, and on the southern side of the eastern entrance to Lennox Passage, a strait conecting St. Peter's bay with the Strait of Canso.

During 1915-16, the sum of $40.34 was expended in completing the renewal of the cap-timbers, commenced during 1914-15.

DIGBY.

(This work is described in the annual report for 1915).

Digby, Digby county, is the shire town of the county, with a population of about 1,600 people, situated on the southwestern end of Annapolis basin.

In 1915-16, the sum of $1,919.15 was expended in extensive and miscellaneous repairs and renewals to the pier.

EAST END.

East End is a local name given to a portion of Cape Sable island, situated about three miles from its eastern extremity. There are about 35 boats, representing a population of 250 people, all of whom are supported by the results of the fishing industry,

for which these boats are required. In the fiscal year 1904-5, there being no shelter this side of Cape Sable island, the department opened up a channel from the sea to a small point known as Johnston's point, and built cribwork protection walls on each side. The channel itself is 365 feet long, 20 feet wide and has a depth of 7 feet at H.W.O.S.T. The outside or southern wall was 380 feet in length, whilst the inner wall was 30 feet in length, having a common width of 10 feet and a depth of 11 feet at the outer end. This work cost $2,606.17.

Owing to the change from sailing boats to motor boats, a further extension of this work was necessary, as a larger number of boats were utilizing this protection, and having been constructed for eleven years, there was in places logs in the cribwork, of which both walls were constructed, requiring renewal; consequently the sum of $698.77 was expended in effecting the same. The work itself consisted of replacing some twenty-eight of the top logs whilst an extension on the southern wall of 40 feet, at an angle of 18 degrees, was constructed of solid continuous cribwork. This work was satisfactorily conducted, the material being of good quality. The work was commenced October 3 and completed November 11, 1915. Spring tides rise here 10 feet, neap 6½ feet.

EAST FERRY.

(This work is described in the annual report for 1915).

East Ferry, Digby county, is a fishing and farming settlement of about 100 people, situated about 30 miles southwest from the county town of Digby, on the extreme end of the mainland of Digby Neck, or on the east side of Petite Passage, on the opposite or western side of which, at Tiverton, the department built a breakwater, in 1903-4, at a cost of $17,110, by contract.

In 1915-16, the sum of $241.10 was expended in building two pieces of native timber cribwork, respectively, 70 feet long, 10 to 13 feet wide and from 3½ to 6 feet high, and 200 feet long, 15 feet wide and 2 feet high, to form an approach, suitable for vehicles, to the shore end of the work. The whole of the cribwork was ballasted, covered and finished with gravel, and with a hand rail on the south side.

EAST RIVER.

(This work is described in the annual report for 1915.)

East river is the most easterly of the three branches of Pictou harbour. It is navigable for small vessels from opposite Pictou to the town of New Glasgow.

During the fiscal year 1915-16, the sum of $99,730 was earned, after deducting a 10 per cent drawback, in unwatering, common excavation, rock excavation, channeling rock surface, and concrete in lock and approach piers to lock. This amount also includes an allowance made for 50 per cent of value of material delivered. The total earned under this contract up to March 31, 1916, amounts to $315,830.

Dredging.

The departmental hydraulic dredge *No. 5* was employed since its inception in 1908. The amount dredged to the beginning of this season was 2,162,528 cubic yards, measured *in situ*, as detailed on page 24 of annual report for 1915. During the past season, this dredge was employed from July 14 to November 19, in completing the turning basin at Trenton. This work consisted of deepening an area of 645,000 square feet, to 15 feet at L.W.O.S.T., which will give a total depth of 21 feet, when the regulation works at Stone-House point are completed. The quantity of material dredged was 159,000 cubic yards, measured *in situ*, of clay, sand and gravel. This includes 34,000 cubic yards of over-dredging, designed to provide an extra depth for the sedimentation resulting from the operation of the hydraulic dredge, also for the river drift of future years.

The quantity of material removed, as shown by the dredge captain's weekly returns, is 287,104 yards, scow measurement.

Of this total work authorized, there yet remains 469,661 cubic yards of material that can be removed by an hydraulic dredge; and 81,883 cubic yards of material requiring a strong dipper dredge, with the possible assistance of a rock-breaker.

FELTZEN SOUTH.

(This work is described in the annual report for 1915.)

Feltzen South, Lunenburg county, is the name given to a large and prosperous farming and fishing settlement, situated on the west side of Lunenburg bay, three miles southwest of the town of Lunenburg. The population of the village is 300.

Wharf.

During 1915-16, the sum of $700.01 was spent in replanking the whole top of the wharf, placing new fenders, stringers and guard rail.

Work commenced November 1, and completed January 12.

Breakwater.

During 1915-16, the sum of $50 was expended in the erection of a crane with a block and tackle attachment.

Work was done during the month of November.

FIRST SOUTH.

First South, Lunenburg county, is a postal-note office and farming settlement 2½ miles from Lunenburg, with a population of about 225. The population of the near vicinity numbers 500, whose chief industries are farming and fishing.

During the fiscal year 1915-16, the sum of $2,377.87 was expended in widening and straightening the circuitous channel which separates Lonis island from the mainland. Two areas at opposite bends of the channel approaching the bridge were dredged, totalling 197 feet in length, and having a width of 80 feet, and a depth of 9 feet, giving a depth, at L.W.O.S.T., of 15 feet. Work was carried out by dredge *P.W.D., No. 15,* the material dredged consisting of small shells. 6,828 cubic yards, scow measurement, were removed, or 5,253 yards, place measurement, showing an expansion factor of 30 per cent. .Dredging was started September 1 and completed November 16.

This improvement should last for a few years. The work proved rather difficult to accomplish on account of a strong current.

FOX ISLAND.

(This work is fully described in the annual report for 1915.)

Fox island, Halifax county, is a small island, situated on the Atlantic coast of Nova Scotia, thirteen miles east of the city of Halifax, about 900 feet from the mainland. It is only some three or four acres in extent, and no point on it is more than six feet above H.W.O.S.T. It has no permanent inhabitants, but during the summer season it is used by the fishermen as a fishing station.

During the fiscal year 1915-16, the sum of $1,249.69 was expended in completing the extension to the breakwater. As it now stands, it is 205 feet in length by 25 feet in width, with an ell 25 feet long by 20 feet wide. It has a depth at the outer end, below L.W.O.S.T., of 16 feet.

Work commenced July 1 and completed December 21.

FREEPORT.

(This work is described in the annual report for 1915.)

Freeport, Digby county, is situated on the southern end of Long island, on the east side of Grand passage, 40 miles southeast of Digby gut, and 26 miles southwest from Trout Cove.

In 1915-16, the sum of $37.45 was expended in renewing some few planks, in the floor of the wharf, that had been broken by heavy seas.

FRENCH RIVER.

(This work is described in the annual report for 1914.)

French River, Victoria county, is a small settlement on that portion of Cape Breton island, known as the "North Shore" and is situated about midway between the harbours of St. Ann's and South Ingonish.

During the year 1915-16, the further sum of $74.25 was expended in completing the reballasting of outer bays of breakwater, commenced during the previous year.

FRUIDS POINT.

As the repairs to this wharf were very slight, a description of it in this instance is hardly necessary. It is a ferry wharf, being situated within 400 yards of Lockeport station, from which point a railway "Y" carries the track up to and upon the wharf. Some slight repairs were reported as necessary. There was also a small trestle under the shoreward span resting on a mud sill, which had been carried away by a high tide during a heavy southeast gale. Besides this, the railway people discovered that underneath their tracks some of the stringers were beginning to get weak. We, therefore, expended $122.32 in effecting these minor repairs. The stringers, composed of 10 by 14 square timber, were renewed for a length of 120 feet, the new trestle was put in place in the centre of the long span, about 500 feet B.M. covering was renewed, and the drop slightly repaired. The work was commenced February 1 and completed February 23, 1916. Spring tides rise here 7 feet, neap 4½ feet.

GABARUS.

(This work is described in the annual report for 1914.)

Gabarus bay, Cape Breton county, is on the Atlantic coast of Cape Breton island, and is 5 miles wide at the entrance, between White point and Cape Gabarus.

During 1915-16, the sum of $203.04 was expended in the construction of a crane, for the loading of heavy fish boxes into vessels, and in purchasing and placing 5,280 feet B.M. of 2-inch covering on outer end of wharf.

GEORGEVILLE.

(This work is described in the annual report for 1914.)

Georgeville is a settlement on the southern shore of Northumberland strait, 6½ miles southward from Cape George.

During the heavy fall storms in 1912, the outer 50 feet of the wharf was destroyed, to within 1½ feet of L.W.S., and the ballast deposited about the structure and the "L" on the western side was destroyed, to L.W.S., by the ice and the debris deposited in the dock on the sheltered side of the wharf.

During the eight months ended November 30, 1915, the sum of $472.04 was expended in renewing covering and sheathing of wharf where needed.

Work was in progress in July.

GRAND ETANG.

(This work is described in the annual report for 1915).

Grand Etang, Inverness county, is on the Gulf of St. Lawrence, about midway between the harbours of Margaree and Cheticamp, on the western shore of the island of Cape Breton.

During the fiscal year 1915-16, the sum of $599.92 was expended in repairing and reballasting the outer ends of the channel blocks.

GRANVILLE CENTRE.

Granville Centre, Annapolis county, is a scattered settlement of some 300 people, situated on the rght or north bank of the Annapolis river, 4 miles east of, or above, Granville ferry. Both banks of the Annapolis river, from the town of Annapolis to the head of navigation at Bridgetown, a distance of about 15 miles, are thickly settled by a thrifty agricultural and fruit-growing population.

In 1901 to 1904, the department built a pile wharf, 90 feet long, 25 feet wide, with an ell, giving a face length on the river front, of 50 feet. The cost in the three years being $1,907.52.

In 1915-16, the sum of $977.11 was expended in thorough repairs and renewals to the floor of the wharf, which had become very much decayed in the twelve or thirteen years since it was finished.

GREAT VILLAGE.

(This work is described in the annual report for 1914).

Great Village, Colchester county, is an important settlement of about 650 or 700 situated in a thriving farming district, along the north side of Cobequid bay, on the Great Village river, about 1½ miles from its mouth, and about 15 miles west from Truro and 3½ from Londonderry, the nearest railway station.

During 1915-16, the sum of $149.99 was expended in replanking the top of wharf, placing some new stringers and a new guard rail, and in repairing approach.

Work done in the month of July.

HARBOURVILLE.

(This work is described in the annual report for 1913).

Harbourville, Kings county, is situated on the south shore of the Bay of Fundy, 53 miles northeast of Digby gut, 9 miles northwest from Berwick, on the D. A. Ry. The population of the village is about 200 people, engaged in fishing and farming.

In 1915-16, the sum of $3,791.45 was expended in taking down and rebuilding the whole length of the wharf wall, or retaining wall, on the northeast side of the inner harbour, 394 feet long, from 20 to 12 feet wide and of an average height of 16 feet.

HARRIGAN COVE.

(This work is described in the annual report for 1914.)

Harrigan Cove, Halifax county, is a settlement of some 400 people engaged in fishing and farming. It is situated on the Atlantic coast, seventy miles east of Halifax.

In the year 1915-16, the sum of $499.76 was expended in replanking the whole top of the wharf with 3-inch spruce planking, placing new fenders and three new mooring posts, also the placing of some new 3 by 10 floor beams.

Work commenced July 19 and completed August 31.

HEAD OF CHEZZETCOOK.

(This work is described in the annual report for 1915.)

Head of Chezzetcook, Halifax county, is a small settlement, about 22 miles east from Dartmouth by stage, with a population of about 300 people, engaged in fishing and farming.

During the fiscal year 1915-16, the sum of $2,239.61 was expended. The rebuilt structure is of native timber cribwork, stone ballasted, 84 feet in length by 45 feet in width, with a stone and gravel approach 30 feet by 45 feet wide. The work has an average height of 6 feet.

Work commenced October 1 and completed January 28.

HERRING COVE.

(This work is described in the annual report for 1912.)

Herring Cove, Halifax county, is a small, narrow and nearly landlocked inlet, situated on the western side of the mouth of Halifax harbour, 5½ miles in a direct line from the city of Halifax. Around the cove extends a fishing village of about 150 people, wholly dependent upon the fishing industry as a means of livelihood, the annual catch being valued at $100,000.

In the fiscal year 1915-16, the sum of $170.50 was expended in rebuilding part of the walls of the approach, filling in a hole in the same, and grading 250 yards of the right-of-way.

Work commenced June 28, and completed July 8.

There is also a breakwater of creosoted timber on the eastern side of the mouth of the cove. It was built in 1903-4, by contract at a cost of $11,550.

JAMESVILLE.

(This work is described in the annual report for 1915.)

Jamesville, Victoria county, is a country district with a population of about 30 families, situated on the northern shore of the Great Bras D'Or lake, about 2 miles west of Iona, a station on the Intercolonial railway.

During the year 1915-16, the sum of $3,399.62 was expended in procuring the balance of materials required for the construction of a cribwork block 170 feet long, 116 feet wide, with 7 feet at low water, in the construction of the pile approach, 170 feet long, and 90 feet of the breakwater, and of the substructure of the balance of the breakwater, 80 feet in length.

JOGGIN MINES.

(This work is described in the annual report for 1913.)

Joggin Mines is a town of about 2,000 people, situated on the shores of Chignecto bay, about 15 miles southwest of Amherst.

During the past fiscal year, in order to place the old work in proper shape, 70 feet in length of the old breakwater, to a depth of 14 feet and width of 10 feet, was reconstructed. The work performed in 1912-13 required further ballasting, and the turning place was extended a further distance of 65 feet. This work was commenced July 2 and completed October 30, 1915. Spring tides rise here 38 feet, neap 32 feet.

KELLY'S COVE.

(This work is described in the annual report for 1915.)

Kelly's Cove, Yarmouth county, about 3 miles south of the town of Yarmouth.

In 1915-16, the sum of $1,289.72 was expended in placing about 1,000 cubic yards of large boulders along the western or seaward face of the breakwater, to check the undertow which was threatening to scour the foundation.

KEMPT HEAD.

Kempt Head, Victoria county, is on the northern side of Boulardarie island, on the Great Bras D'Or channel, and about 1 mile from Boulardarie Head, the south-western end of the island.

During 1901-2 a block and span wharf, with creosoted timber substructure, 185 feet in length and 20 feet in width, with an "L" at the outer end, 20 by 20 feet, and extending to 12 feet at low water, was constructed by the department, and during 1902-3 a road 900 feet in length and 20 feet wide was constructed to connect the wharf with the public road.

During the fiscal year 1915-16, the sum of $824.82 was expended in the reconstruction of the whole top of the structure, consisting of stringers, covering, cap-timbers and upper fenders, to replace the original top, which was badly worn and decayed and in repairing the road leading from the wharf to the public road.

KINGSPORT.

(This work is described in the annual report for 1914).

Kingsport, Kings county, is a village of some 500 people, on the southwest of the Basin of Minas, between the mouth of the Cornwallis river and Cape Blomidon.

In 1915-16, the sum of $2,359.61 was expended in extensive repairs and renewals to the upper part of the pier. The whole floor was renewed, including planks, stringers and caps, for the whole length of 565 feet, except the outer 140 feet, which was comparatively new and in good condition. Numerous mooring posts and fenders were also renewed.

KRAUT POINT.

(This work is described in the annual report for 1914).

Kraut Point, Lunenburg county, is situated at the entrance to the harbour of Riverport, one of the most important shipping points in the county of Lunenburg. It is about 16 miles by river from Bridgewater and 10 miles from Lunenburg.

During the year 1915-16, the sum of $53.24 was expended in the erection of a crane on the wharf, and the placing of shutters on the shed.

Work done in the month of December.

L'ARDOISE.

(This work is described in the annual report for 1915).

L'Ardoise, Richmond county, is on the eastern side of St. Peter's bay, near its entrance from the Atlantic ocean, and about 9 miles to the eastward of the southern entrance to St. Peter's canal.

During 1915-16, the sum of $499.90 was expended in repairing, by concrete work, the inner face of the breakwater, for a distance of 100 feet from the outer end inwards.

L'ARDOISE BEACH.

(This work is described in the annual report for 1915.)

L'Ardoise beach separates Shaw's lake from Shaw's cove, and serves as a landing place for fishing boats, as a site for fish-houses, and as a place to cure fish upon.

During 1915-16, the sum of $400.82 was expended by day labour, in close-sheathing the outer faces and ends of the cribwork bridge abutments, to prevent undermining of the sand foundation by the scouring action of the sea, and in extending the brush and stone beach protection work.

LEONARD'S COVE.

(This work is described in the annual report for 1914.)

Leonard's Cove, Annapolis county, is a slight indentation in the coast line of the east side of the Bay of Fundy, 2½ miles east of Parkers Cove. The population comprises about 100 people engaged in fishing and farming.

In 1915-16, the sum of $49.11 was expended in repairs to the floors of the breakwater, comprising the replacing of a few fenders and guard timber on the outer end, and a small quantity of ballast.

LITCHFIELD.

(This work is described in the annual report for 1914.)

Litchfield, Annapolis county, is a fishing and farming settlement on the south coast of the Bay of Fundy, 14 miles north-east of Digby gut.

In 1915-16, the sum of $547.38 was expended in completing the extension of the breakwater built in 1913-14.

LITTLE ANSE.

(This work is described in the annual report for 1914.)

Little Anse, Richmond county, is a boat harbour on the eastern coast of Petit de Grat island, which lies to the eastward of Madame island, off the southern coast of Cape Breton island.

During 1915-16, the sum of $849.37 was expended in the construction of concrete retaining walls along the inner and outer faces of the stone approach, 25 feet in length, 7 feet in height, and 4 feet in width at the bottom, and 1½ feet in width at the top, and in repairs to the 6-inch concrete covering of this section of the stone approach.

LITTLE BASS RIVER.

(This work is described in the annual report for 1915.)

Little Bass River, Colchester county, is a settlement of 160 people, three miles from Bass river, the chief industries being lumbering and farming.

During 1915-16, the sum of $999.63 was expended in placing a crib retaining wall along one side of the cut which was made during last year. The crib is 127 feet long by 13 feet wide with an average height of 10 feet. In order to construct this retaining wall, it was necesasry to excavate 340 yards of material. The poles which protected the bank from caving last year were taken out and used in making this retaining wall. Since the work has been completed, the object for which it was undertaken, namely, the deepening of the river in front of the lumber loading trestles, has been accomplished. As expected, the spring freshets of last season assisted in opening up the channel to an extra depth of about 4 feet and width of about 30 feet, which allows vessels to come up to the loading trestles. This work will prove a great benefit to the lumbering interests and to the people generally.

Work commenced September 20 and completed October 23.

LITTLE HARBOUR.

Little Harbour, Lunenburg county, is a fishing village of about 300 inhabitants, situated 27 miles south of Bridgewater. About $12,000 worth of fish is exported annually. The dredging is to provide suitable shelter and better harbourage for the fishing boats.

During the fiscal year 1914-15, the sum of $1,733.30 was expended in dredging 3,096 cubic yards, scow measurement, of mud from the harbour.

During the fiscal year 1915-16, dredging operations were continued by dredge *P. W. D., No 15*, and 3,267 cubic yards, place measurement, of mud and gravel were

removed, having an expansion factor of 30 per cent, showing 4,247 yards, scow measurement. The excavation this year was over an area of 12,601 square feet, and the average cutting was 7 feet, giving a depth of 6 feet at L.W.O.S.T. To complete the work as estimated will require the removal of another 2,407 yards, scow measurement, 7,343 cubic yards having been removed to date.

Work was carried out under some difficulties this year, as operation was only possible over the greater part of the work at high tide, and rough weather greatly interfered with dredging. Dredging done here should last for a considerable time, but it would be advisable to make an annual expenditure of $200 to keep the channel clear.

LITTLE HARBOUR.

(This work is described in the annual report for 1915.)

Little Harbour is on the Northumberland strait about 5 miles east of the entrance to Pictou harbour.

During the fiscal year 1915-16, the sum of $206.46 was expended in procuring timber and stone for a proposed reconstruction of an outer block of wharf above low water, but not used for this purpose; in replacing some round timber in damaged portion of outer end, in renewing corner fenders and covering, and in placing a small quantity of heavy stone in the approach.

Work was in progress in September, October and November.

LITTLE RIVER.

(This work is described in the annual report for 1914.)

Little River, Digby county, is situated on St. Mary's bay, on the inner or eastern side of the peninsula known as Digby neck.

In 1915-16, the sum of $91.64 was expended in the construction of a fence along the water front face of the road, constructed by the department in 1911-12, as an approach to the breakwater. The work was satisfactorily completed.

LIVINGSTON'S COVE.

(This work is described in the annual report for 1915.)

Livingston's Cove is situated on the southern shore of Northumberland strait about 2 miles south-west from Cape George.

During the fiscal year 1915-16, the sum of $299.31 was expended in procuring about 100 cubic yards of large stone to be used in strengthening the seaward face of the wharf.

Work was in progress in October.

LOCKEPORT.

Lockeport, Shelburne county, is a town of about 800 people, situated on the Atlantic seaboard, about 110 miles southwest of Halifax, and 80 miles east-southeast of Yarmouth. Fishing is practically the only and main industry, Lockeport being the centre of the fishing industry along this coast. Considerable development has taken place here, whilst the prospects for the future tend towards a still greater development. The shipping consists of about 30 small schooners, ranging from 20 to 80 tons, two schooners of 100 tons burden each, about 200 boats, ranging from ½ to 3 tons burden, three small steamers, from 50 to 60 tons, one steamer of about 100 tons burden, and a refrigerator steamer of about 500 tons burden. Owing to the dredging, which has been undertaken during the past three fiscal years, twenty large Lunenburg fishing schooners ranging from 95 to 130 tons burden, were supplied with bait this spring. In former years, owing to the shallowness of the channel and approaches to the wharfs, this was impossible, and the bait had to be shipped by railway to Lunenburg, and a large number of

American fishing schooners have been enabled to make Lockeport a port of call for supplies, etc. During the last fiscal year, over $50,000 worth of bait was supplied to various fishing interests. The value of the shipping in Lockeport is in the vicinity of $250,000. Practically all the small vessels, being engaged in what is locally termed off-shore fishing, make from 40 to 60 trips per year.

The improvements to this harbour were first undertaken during the fiscal year 1913-14, when 83,000 cubic yards, scow measurement, were removed. During the fiscal year 1914-15, some 69,200 cubic yards were removed, and during the past fiscal year, 113,280 cubic yards were removed. These are all scow measurements.

Work was commenced on the 23rd of June, and completed on the 22nd of December, 1915. The principal object of this work was to make the harbour navigable for vessels of deeper draught, likewise to provide anchorage for the increasing fishing fleet. During the fiscal year the channel was thoroughly gone over, and a considerable quantity of sand and mud removed from the western portion of the same. Besides this work, a basin was excavated, practically 600 feet in length and 450 feet in width. From a large portion of this basin, mud to the depth of 10 feet was removed.

Spring tides rise here 6½ feet, neap 4½ feet.

LUNENBURG.

Lunenburg, Lunenburg county, is situated on the Atlantic coast 49 miles west of Halifax, by water, with a population of about 4,000. It is the most important fishing port in the Dominion, the fishing business aggregating about $1,000,000 a year, 200 vessels being engaged, which employ 3,000 men.

During the fiscal year 1912-13, 181,709 cubic yards of mud and sand were removed from the harbour at a cost of 27½ cents per yard. Work was performed in front of the wharfs and in the immediate vicinity of the same, the object being to provide safe anchorage to a depth of 17 feet below L.W.O.S.T.

During the fiscal year 1914-15, dredging was carried on by the department to provide a depth of 18 feet below L.W.O.S.T. in front of the wharfs. The plant employed consisted of the *Lobnitz Rockbreaker, No. 3,* and dredge *Beacon Bar,* with two scows from dredge *No. 7.* The nature of the material removed was mud and rock, the average depth of cutting being 4·1 feet and the area covered 1·2 acres. Material removed was as follows:—

	Place.	Scow.
Hard pan	3,428	4,600
Broken rock	3,640	5,400
Soft material	490	600

During the year 1915-16, dredge *Beacon Bar* and *Lobnitz Rockbreaker, No. 3,* were in operation during the months of April and May. In December, the rockbreaker returned and continued work until the end of the fiscal year. Dredge *No. 6,* with two scows, started on February 5 and worked until the end of the year.

During the year, *Lobnitz No. 3* reported breaking up 24,358.29 cubic yards.

Dredge *Beacon Bar,* from April 1 to May 8, removed the following:—

	Cubic Yards.
Hard pan	2,700
Broken rock	9,100
Mud	800
	12,600

Dredge *No. 6*, from February 5 to March 31, removed the following:—

	Cubic Yards.
Hard pan	2,372·5
Broken rock	7,257·5
Mud	1,740
	11,370

Total dredged during the season, 23,970 yards.

The area covered by the rockbreaker totals 124,996 square feet, exclusive of a second going-over of an area of 24,206 square feet. The area covered by the dredge totals 105,230 square feet. The Brick shoal has been dredged to 15 feet below L.W.O.S.T., the intention being to dredge this portion to 18 feet below L.W.O.S.T. Isnor's shoal has been partly dredged to 14 feet below L.W.O.S.T., or to grade. The area in front of the wharfs has been partly dredged to grade.

The area yet remaining to be done is the area along the front of the wharfs, to be dredged to 18 feet below L.W.O.S.T., and the area lying off in front of the wharfs, to a depth of 14 feet below L.W.O.S.T. The total area to be covered is 463,000 square feet. In order to complete the work it is estimated the following quantites of material yet remain:—

Nature of Material—	Ep. Factor.	Place. Cubic Yards.	Scow. Cubic Yards.
Rock	50%	14,162	21,242
Other materials	30%	98,877	128,540

The duration of these improvements will be until a greater depth is necessitated by the commerce of the town.

McKAY'S POINT (JUDIQUE).

(This work is described in the annual report for 1914.)

McKay's Point (Judique), Inverness county, is on the east side of St. George's Bay, 10 miles south of Port Hood and 16 miles north of the northern entrance to the Strait of Canso.

During 1915-16, the sum of $198.62 was expended in repairs to the covering of the breakwater and in the renewal of some fenders.

McKAY'S POINT.

McKay's Point (Lower Washabuck), Victoria county, is on the western side of the entrance into St. Patrick's channel, an arm of the Bras D'Or lake, about two miles by water, from and opposite the town of Baddeck. The wharf was built by the department during 1903-4, at a cost of $5,442. It is a block and span structure extending to 12 feet at low water, 206 feet in length and 20 feet in width, with an "L" on the western side of the outer end, 20 feet by 20 feet, and is composed of a shore abutment 28 feet long, of four cribwork blocks, 17 feet long, and of an outer block, 20 by 40 feet, with openings, between blocks, 18 feet in length. The blocks are constructed of round timber, laid open-faced, with ties of round timber, creosoted to high water level, fully ballasted and fendered and the outer faces of the outer block were close-sheathed as a protection against floating ice.

During 1905-6, the sum of $100 was expended in repairing the outer face and ends of the outer block, and during 1907-8, the sum of $150.39 was expended in the construction of a small warehouse on the outer end of the wharf.

During the year 1915-16, the whole top of the wharf, built 12 years previous, which had become worn and decayed, and including floor-stringers, covering, cap-timbers and upper fenders, was entirely renewed at a cost of $899.74.

McNAIR'S COVE.

(This work is described in the annual report for 1915).

McNair's Cove is situated on the western side of St. George bay about two miles to the southward of Cape George.

During the fiscal year 1915-16, the sum of $599.92 was expended in reballasting and protecting, by stone talus, about 45 feet of the seaward face of the work, and strengthening the inner face over a distance of 200 feet, by native timber piling driven 5 feet apart.

Work was in progress in October.

MABOU HARBOUR.

Mabou harbour, Inverness county, is on the western side of Cape Breton island, about 6 miles northeast from Port Hood.

The entrance was formerly at the southern extremity of a range of hills and by an intricate channel, obstructed by a bar over which there was a depth of only 4 feet at extreme low water.

The opening of the new channel, by dredging through the sand hills at their northern extremity, was undertaken in 1872, and a pier for its protection was constructed on its southern side.

Expenditures were made nearly every year, from 1876 to 1899, in dredging and in repairs to channel protection works.

In 1903, the minimum depth, at extreme low water over the bar, was 6 feet 3 inches, in July, 1906, this depth was increased to 16 feet, but this depth decreased 13 feet in November, 1907, and to 9 feet in July, 1908.

The first dredging of the channel in 1872 was done under contract, but all the dredging done subsequently and up to July, 1908, was done by Government dredges.

During 1908-9, the harbour and the channel inside of the bar were dredged under contract and a quantity of material, amounting to about 144,600 cubic yards, scow measure, was removed, but the improvement was not completed.

During the year ended March 31, 1916, the Government dredge *Cape Breton, No. 6,* was detailed to complete the dredging of the channel, 100 feet in width over the bar inwards, and outwards over a total distance of about 3,900 feet, to a depth of 12 feet at low water springs. Operations were commenced on June 28, 1915, and continued until September 9 following, when the work was completed in a satisfactory manner, both as regards the depth and the widths obtained.

The amount of material removed to effect these improvements, consisting mostly of sand, measured 20,144 cubic yards in place, and as, in accordance with returns, the quantity removed measured 34,395 cubic yards in the scows, the expansion would appear to have been about 70 per cent, which is double the expansion generally found in dredging similar material.

This increased percentage is due to the shifting nature of the material outside of the cut, which, being mostly light sand, was washed into the cut by the heavy seas, while the work was in progress, and had to be removed, as well as the orginal material in place, to obtain the depth required.

Owing to the shifting nature of the bottom in the outside channel, it is not expected that the present depths will be maintained for any length of time, unless the breakwater on the southern side of the channel is extended outwards, at least as far as the outer end of the dredged channel.

MAHONEY'S BEACH.

Mahoney's beach is on the western shore of St. George's bay about 13 miles south from Cape George and nine miles from the town of Antigonish.

The beach is about one-third of a mile in length and from 150 to 350 feet in width and separates Ogden's pond from St. George's bay.

During the fiscal year 1915-16, the sum of $29.31 was expended in repairing the road between the highway and the beach, partly destroyed by trucking during repairs to the protection work at Ogden's pond in 1914-15.

MARGAREE HARBOUR.

(This work is described in the annual report for 1915.)

Margaree harbour, Inverness county, at the mouth of the Margaree river, is on the west coast of Cape Breton island, about 30 miles northeast of Port Hood.

During the year 1915-16, the sum of $411.09 was expended in general repairs to the breakwater, rendered necessary by damage during a heavy gale, and consisting of the renewal of some covering, fenders, cap-timbers and of ballast.

MARGARETVILLE.

(This work is described in the annual report for 1915.)

Margaretville, Annapolis county, is the most important village on the south shore of the Bay of Fundy, between Digby gut and Scott's bay.

In 1915-16, the sum of $4,785.18 was expended in taking down and rebuilding a portion of the west, or seaward face, of the breakwater, 130 feet long, 20 feet wide, and from 27 to 33 feet high. The flooring and stringers of other portions of the work were also renewed.

METEGHAN.

(This work is described in the annual report for 1915.)

Meteghan, Digby county, is situated on the south side of St. Mary's bay, Bay of Fundy, 25 miles north of Yarmouth, 20 miles south of Weymouth, 21 miles south of Meteghan river and 40 miles south of Digby, the county town.

In 1915-16, the sum of $149.84 was expended in emergent repairs to the covering of the main breakwater, also the replacing of some sheathing along the face of the work.

MIDDLE COUNTRY HARBOUR.

(This work is described in the annual report for 1914.)

Country harbour is on the Atlantic coast of Nova Scotia, 36 miles westward from Cape Canso.

During the fiscal year 1915-16, the sum of $764.18 was expended in cutting down to within 1 foot of high water, and reconstructing the two outer blocks of the wharf, and in constructing a brush mattress to protect the piles in the foundation of the warehouse from being lifted by the ice.

Work was in progress in June, July and September.

MILL CREEK.

(This work is described in the annual report for 1915.)

Mill creek, Kings county, is a small farming settlement of a couple of hundred people, situated on the eastern side of the Basin of Minas, 3 miles south of Blomidon and 4 miles north of Kingsport, the terminus of a branch of the D. A. Ry.

In 1915-16, the sum of $400 was expended in hand digging a channel along the beach to divert the brook, which issues in the neighbourhood, for the purpose of scouring the gravel that obstructs the berthing of schooners and other craft.

MINUDIE.

Minudie is a small village of about 300 inhabitants, situated at the head of Chignecto channel, at the mouth of the River Hébert, about six miles north of River

Hébert village. This wharf was constructed in the fiscal years 1911-12 and 1912-13, at a total expenditure of $3,166.17. Since that time there have been minor repairs, together with the construction of a ferry slip amounting to about $400.

The work itself consists of an approach, 123 feet long, 16 feet wide on top and 9 feet high at the outer end. The approach is constructed in the form of a rock bank with the wall about four feet thick, whilst the centre was filled in with smaller stones. The wharf proper is 75 feet long, the shoreward 50 feet being 20 feet wide on top, whilst the outer 25 feet had a frontage of 65 feet, the outer face having a height of 26 feet. This was constructed of continuous cribwork. During the past fiscal year, $643.12 was expended in replacing the covering, stringers and guard rails, and the outside crib was reconstructed for a depth of six feet. This work was commenced October 15 and completed November 19, 1915. Spring tides rise here 40 feet, neap 33 feet.

MOSHER'S BAY.

Mosher's bay, Lunenburg county, is situated on the east side of the entrance to La Have river, about half a mile west of La Have Ironbound island.

During the year 1914-15, the department expended the sum of $2,960.50 in procuring material for a breakwater, which it was proposed to construct during the fiscal year 1915-16.

During 1915-16, the construction was commenced and the sum of $2,815.35 expended. An additional amount of $2,022.08 was expended in securing timber for the carrying out of the work here next year, so that the total expenditure this year has been $4,838.43.

Owing to the exposed position and exceptionally heavy seas, work was carried out with great difficulty. 150 feet of the shoreward end was built to an average height of 8 feet, 20 feet wide. An additional 60-foot crib, which was being set at the outer end was moved and considerably damaged by a storm. The outer end which has been left uncompleted was temporarily covered to protect the ballast, but later on another severe storm did further damage to this crib, breaking it in two and washing part of it ashore, leaving the remaining portion about 100 feet away from the breakwater. Another 40-foot portion of the structure in place at the outer end also suffered to some extent from storm, about four to six feet being broken away and washed ashore, leaving nothing but the ballast floors, a few logs and a small quantity of ballast intact. The logs which had broken adrift were piled on the shore in a place of safety. The ballasted portion of the work remaining intact was covered, as best possible, to protect it for the rest of the winter.

Work on this breakwater was commenced October 1 and carried on intermittently during the season.

MUSHABOON.

(This work is described in the annual report for 1914.)

Mushaboon, Halifax county, is a small village on the Atlantic coast of Nova Scotia, ninety miles east of Halifax, with a population of about one hundred people engaged in fishing and lumbering. Thirty well equipped boats are used in the fishing industry and the annual catch amounts to about 500 quintals of cod and 2,000 barrels of herring, the value being from $10,000 to $12,000.

During the fiscal year 1915-16, the sum of $298.86 was expended in dredging a channel at this place between Malagash island and the mainland, 330 feet in length by 10 feet in width, with a depth of three feet below L.W.O.S.T. Material dredged consisted of mud and boulders. The work was done by hand.

Work commenced November 1 and completed December 24.

NECUM TEUCH.

(This work is described in the annual report for 1914.)

Necum Teuch, Halifax county, is situated on the east side of Necum Teuch bay, at the mouth of Moser's river. It is sixty-nine miles east from Halifax in an airline and one hundred and five miles by stage. The population of the place is about 400 people, who are engaged in fishing, farming and lumbering.

During the fiscal year 1915-16, the sum of $72.02 was expended in replacing some planks in the top of the wharf.

Work begun October 5 and completed October 12.

NEW HARBOUR.

(This work is described in the annual report for 1914.)

New Harbour is on the southern or Atlantic coast of Nova Scotia, thirty miles to the westward of Canso Harbour.

During the fiscal year 1915-16, the sum of $805.46 was expended in procuring the materials required and in placing 6 concrete blocks on the seaward side of the breakwater, making a continuous wall, 58 feet in length from within 30 feet of the outer end, 5 feet in width and 4·8 feet in average height, founded on a talus of heavy stone.

Work was in progress in July, August, September and October.

NORTH BELLEVILLE.

North Belleville, Yarmouth county, is a settlement of about 150 people, engaged in farming, lumbering and general trade. It is 11 miles east of the town of Yarmouth and the settlement is scattered around the extreme end of Eel lake.

In 1914-15 the department expended the sum of $120.60 in purchasing timber for the construction of a small public wharf.

In 1915-16, the sum of $815.27 was expended in the construction and completion of the wharf, which is a stone-sided, earth-filled, gravel-topped embankment approach, 75 feet long, from 2 to 8 feet high and from 20 to 30 feet wide, finished by a substantial block of cribwork, 30 feet long, 11 feet wide and 9 feet high, giving a depth of water along the outer face of 7 feet at H.W.O.S. Rise of tide being about 10 feet, the work is dry at low water.

NORTH SYDNEY.

North Sydney, Cape Breton county, is an incorporated town and seaport on the northern side of Sydney harbour and is one of the eastern terminals of the Intercolonial Railway.

The harbour is large, with a depth of water up to 30 feet at low water and being safe in all winds, it is used as a harbour of refuge by a large number of fishing vessels, besides being the port of call for several seagoing as well as coasting steamers.

The breakwater is situated on the south bar at the eastern end of the harbour of North Sydney, and was constructed for the purpose of strengthening the bar and to add to the protection of the harbour from easterly winds. It is a native timber cribwork structure about 940 feet long and from 12 to 40 feet wide.

The property on which it is built was granted by the province of Nova Scotia to the Harbour Commissioners of North Sydney in the year 1882, and during that year, the Public Works Department of Canada granted the commissioners, the sum of $2,000 to aid them in the extension of the work. Since that year, the harbour commissioners have constructed various extensions and have kept the work in comparatively good repair.

During the year 1912, they expended the sum of $3,600 in building a block about 40 by 50 feet at the outer or southern end of the breakwater. This work has now been

handed over to the Marine and Fisheries Department. During the year 1915-16, the sum of $50 was expended by this department in rebolting some of the piles in the work, and in placing ballast in some of the empty chambers of the cribwork.

Ballast Grounds.

The ballast grounds are situated off the centre of the town and are being used for the depositing of ballast from vessels. They were the property of the harbour commissioners until a short time ago, when they were transferred to the Marine Department.

A native timber-cribwork block, 140 feet in length and about 40 feet in width was built by the harbour commissioners on the eastern side of the ballast grounds to permit vessels to approach and discharge ballast. After a few years, the structure became weakened by the attacks of the teredo and its seaward face was close-piled with native materials. This piling is also in a bad condition, and as many pieces have been loosened and carried away by the sea, the ballast is falling out of the structure to the detriment of the depth of water outside. It is proposed to extend this block 10 feet out into the harbour by creosoted pile-work, but as the creosoted timber could not be obtained at the time, it was thought advisable to close-pile the face of the block with native timber-piling for the present, and during the fiscal year 1915-16, the sum of $750.03 was expended in doiug tbis work.

NYANZA.

(This work is described in the annual report for 1914.)

Nyanza, Victoria county, is a small settlement 7 miles to the westward of the town of Baddeck, and is at the head of Indian bay on the northern side of St. Patrick's channel, an arm of the Bras-d'Or lakes.

During 1915-16, the sum of $179.13 was expended in the removal of the warehouse from the inner to outer end of wharf and in repairs on it, consisting of reshingling roof and walls and in painting the outside walls.

OSBORNES.

(This work is described in the annual report for 1915.)

Osbornes, Cow bay, Halifax county, is a fishing and farming settlement, ten miles east of Halifax, on the Dartmouth side of the harbour, with a population of 150 people. It is a very popular place as a summer resort.

During the fiscal year 1915-16, the sum of $183.47 was expended in completing the sheathing of the extension.

Work was commenced December 2, and completed December 24.

OSTREA LAKE.

(This work is described in the annual report for 1914.)

Ostrea lake, is a fishing district in Halifax county, situated on the east side of Musquodoboit harbour, near its mouth, 35 miles from Halifax by coach and 8 miles from Musquodoboit harbour village.

In the year 1915-16, the sum of $1,814.45 was expended in tearing down the whole superstructure of the wharf and rebuilding. The wharf is now partially pilework and partially cribwork construction, 98 feet long by 60 feet wide, at the shore end, and 70 feet along the sea face, with a small irregular-shaped L projecting from the southern side of the wharf, 49 feet long by 11 feet wide. A shed, 14 feet by 18 feet, was constructed on the wharf, and a trolley track run from the end of the wharf, where the steamer docks, to the shed. This will be a convenience to the people as the shed could not be built on the end, on account of the exposed position.

Work commenced September 14 and completed March 18.

PEGGY'S COVE.

(This work is described in the annual report for 1915.)

Peggy's cove, Halifax county, is situated on the Atlantic coast on the east side of the entrance to St. Margaret's bay, thirty miles from Halifax by team. The place has a population of about 200 people, engaged chiefly in fishing.

During the fiscal year 1915-16, the sum of $1,044.07 was expended in completing this sea-wall, adding three feet to its height. It now has a maximum height of 15 feet, which extends for a length of 20 feet, and from this to either ends runs off to nothing. The work has been entirely constructed by hand; the harbour is now much improved, and the fishermen have a safe shelter for boats.

Work commenced August 13 and completed November 27.

PETITE RIVIERE.

(This work is described in the annual report for 1914.)

Petite-Rivière, Lunenburg county, is the centre of a thriving farming and lumbering district, situated about 21 miles from the town of Bridgewater in a southwesterly direction. The present length of the work is 1,356 feet, 895 feet being 16 feet wide and the outer 461 feet being 20 feet wide. It is from 5 to 13 feet high and rests on a brush mattress 20 to 30 feet in width and about 2 feet in thickness.

During the year 1915-16, the sum of $999.99 was expended in rebuilding four portions of the breakwater, which had settled. These portions, having a total length of 375 feet and width of 16 feet, were raised to an average height of 2 feet, fully ballasted and replanked. New guards and flooring were put on the work.

Work carried out during the month of October.

PICTOU LANDING.

Pictou Landing, on the east side of Pictou harbour, is the terminus of the Pictou Landing branch of the I.R.C. There are two wharfs; the smaller, known as the ferry wharf, is connected by a subsidized ferry boat with Pictou Town, a mile distant on the opposite side of the harbour; the other, known as the shipping pier, is utilized principally by the Eastern Car Company in importing lumber and in shipping cars to foreign countries.

In order to remove a deposit of silt which prevented the ferry-boat from docking at low water, the departmental dredge *No. 4* was employed from June 16 to 18, in dredging to 9 feet at L.W.O.S.T., a small irregular area between this wharf and the shipping pier, which involved the removal of 1,150 cubic yards of soft clay, measured *in situ*, or 1,365 cubic yards, scow measurement, giving an expansion factor of 15 per cent.

In order to make the docks on both sides of the shipping pier available for large ocean-going ships employed in exporting cars to France and Russia, the departmental hydraulic dredge *No. 5* was employed, between June 28 and July 10, in dredging a dock on the east side, 25 feet in depth at L.W.O.S.T., 450 feet in length by 100 feet in width at the inner end, but widening from near the middle point outwards to 175 feet at the outer end, also a dock on the west side, 24 feet in depth, 350 feet in length by 75 feet in width, including the small area referred to above, which was dredged over the earlier part of the season. The total amount of material excavated was 28,440 cubic yards of clay, sand and gravel, measured, *in situ*, which amount includes 810 cubic yards of over-dredging. The weekly reports return a total of 33,212 cubic yards, including material deposited at the entrance to the docks during the process of dredging which being redredged does not appear in the final measurements.

Under ordinary conditions, these docks should remain open for a period of ten years.

PICTOU.

Harbour Commissioner's Wharf.

The harbour commissioner's wharf, is on the water front of Pictou town, about 1,400 feet west of the I.R.C. wharfs. The dredging was undertaken to permit sailing vessels drawing 15 feet of water to approach the wharf, in order to discharge ballast and to take cargoes, and consist of excavating, to 15 feet at L.W.O.S.T., a channel 100 feet in width, extending from the head of the wharf outward 975 feet to the harbour channel, together with three docks, each 100 feet in width, one across the wharf's head and one on each side of the wharf for a distance of 200 feet.

The work was performed by the departmental dredge *No. 4*, between July 14 and September 21, 1915, and involved the removal of 37,100 cubic yards, *in situ*, of soft clay, all above sub-grade, or 44,460 cubic yards, scow measurement. This gives an expansion factor of 20 per cent, which accords with 21 per cent at Caribou harbour, where the material was a firmer clay, with 19·5 per cent at Abercrombie point and with 18 per cent at Pictou Landing, where the material was a soft deposit of alluvial clay. No dredging was performed below sub-grade. The channel will probably remain navigable, for the above described class of vessels, for a period of from five to ten years.

PORT DUFFERIN.

(This work is described in the annual report for 1914).

Port Dufferin (East), Halifax county, formerly called Salmon River, is a thriving village of from 300 to 400 people, engaged in fishing, farming and gold mining. It is situated on the Atlantic coast, on the east side of an inlet known as Beaver harbour, about eighty-four miles east of Halifax by high road, and about half-way between Halifax and the harbour of Canso.

During the fiscal year 1915-16, the whole structure was thoroughly overhauled and put in a state of repair. A complete lot of new piles were driven, new caps and stringers placed, and the whole top of the wharf replanked and new guards and fenders placed, at a cost of $999.13. The measurements of the wharf at present are: stone and earth approach, 135 feet long by 27 feet wide; stone-filled crib, 60 feet long by 27 feet wide; pilework portion 84 feet long by 27 feet wide, and ell 29 by 64 feet, giving a face length of 56 feet. The wharf has an avrage height of 13 feet and has a depth of water along the face, at L.W.O.S.T., of 13 feet.

Work started, November 3 and completed, January 29.

PORT DUFFERIN WEST.

Port Dufferin (West), Halifax county, is situated on the opposite side of the river from Port Dufferin East. It has a population of about 150 people.

During the fiscal year 1912-13, the sum of $2,938.03 was expended in the construction of an approach for a wharf to be built next season. This approach, 70 feet long by 25 feet wide, was constructed with walls of dry stone masonry, the centre being gravel filled. Two cribs, 20 feet by 25 feet each, 10 feet to 15 feet in height, placed 10 feet apart, were also constructed and timber was purchased the next fiscal year.

During 1913-14, the sum of $4,133.05 was expended in completing the wharf. The work consists of a stone and gravel approach 70 feet by 25 feet, next 130 feet of block and span construction and then a solid cribwork L, 40 feet by 45 feet, giving a total length of 240 feet and a face length of 45 feet, with an average height of 14 feet and depth of thirteen feet along the face at L.W.O.S.T.

During the fiscal year 1915-16, the sum of $300.07 was expended in the construction of a shed on the L of the wharf. The shed is 18 feet by 16 feet.

Work began 8th November and completed 28th December.

PORTER'S LAKE.

(This work is described in the annual report for 1914).

Porter's lake, Halifax county, is situated about the middle of the county, fifteen miles distant from Halifax. It is eighteen miles in length and from one-quarter to one-half a mile wide. The water, having a good depth for almost its entire length, is navigable for vessels of sixty tons to its extreme head. The normal level of the lake is from two to three inches above H.W.O.S.T.

During the year 1916, the sum of $100.01 was expended in opening and keeping outlet open at the foot of the lake. The work was done as required from time to time through the season.

PORT FELIX.

Port Felix is a harbour and fishing station on the eastern extremity of Tor bay, on the Atlantic coast of Nova Scotia, 3½ miles to the westward of the entrance to White Haven.

A contract for the construction of a wharf was entered into on September 29, 1910, for $4,309.

The work, which is a block and span structure, 225 feet in length and 20 feet in width, extending to 9½ feet at L.W.S., was commenced June 5 and completed July 4, 1911. Spring tides rise 6 feet.

During the fiscal year 1915-16, the sum of $254.75 was expended in constructing a road, 357 feet in length, between the highway and the western end of a road built in 1911-12, and $264.39 in placing stringers and covering over the ground sills of the approach to the wharf, and in constructing a small warehouse.

Work was in progress in September, October and November.

PORT HASTINGS.

Port Hastings, Inverness county, is on the eastern side of the Strait of Canso, 2½ miles to the northward of Port Hawkesbury. The Inverness Railway and Coal Company have piers at this place, for the shipment of coal from their mine in Inverness on the Gulf of St. Lawrence, 60 miles distant.

A contract, entered into September 28, 1908, for the construction of a wharf, warehouse and roadway, was completed during the fiscal year 1909-10.

The wharf consists of a crib-work retaining-wall, 105 feet in length and 14 feet in width (with earth and stone filling behind it, 40 feet in width); a triangular crib-work-block, in continuation of the retaining wall, 55 feet in length and 40 feet in width, placed so as to be in line with a possible extension of the Inverness Railway and Coal Company's low level shipping pier, and nearly parallel to and 130 feet from a line in extension of the inner or northern face of the high level shipping pier. The depth, at extreme low water, on the southern side of the outer block, varies from 14¾ feet at its outer to 10 feet at its inner end. The top of the covering is 5 feet above extreme high water.

Spring tides rise 5 feet.

The warehouse at the back of the triangular block is a one-story building, 30 feet by 20 feet, with two doors, a sliding and swing door, on the southern side.

The roadway extends 320 feet from the inner end of the wharf, to a public road leading from the railway station to the village of Port Hastings. It is properly graded, covered with broken stone, has plank crossings over the railway, a siding near the inner end of the wharf and a box culvert at the junction with the public road.

Owing to wear and tear and to natural decay of the wood, it was found necessary, during 1915-16, to expend the sum of $499.46 in the renewal of the covering and of the cap-timbers over the whole of the wharf.

PORT HAWKESBURY.

(This work is described in the annual report for 1915).

Port Hawkesbury, Inverness county, is on the eastern side of the Strait of Canso, nearly opposite Port Mulgrave.

During the year 1915-16, the sum of $427.64 was expended, by day labour, on repairs to the warehouse and on repairs to and strengthening of the corners of the wharf which were damaged by being run into by a heavy steamer.

PORT HOOD.

(This work is described in the annual report for 1915).

Port Hood, the shiretown of Inverness county, is on the west coast of Cape Breton island, 20 miles north of the northern entrance to the Strait of Canso.

The inner end of the wharf, for a distance of 50 feet, was badly damaged during a heavy gale in September, 1915, and the sum of $297.78 was expended during 1915-16, in the renewal of close-sheathing on the seaward face of, and in replacing the damaged covering and cap-timbers over the damaged part of the work.

PUGWASH.

A description of the wharves at Pugwash has been given so many times that it would probably be superfluous in connection with this small expenditure of $499.97. The amount was for the purpose of repairing the wharf last built. The covering was renewed, and about 400 tons of additional ballast were placed in the cribs. This additional ballast was required, as a lot of the former ballast had fallen out and settled, the teredo nevalis having eaten away a portion of some of the ballast floors.

QUODDY.

Quoddy (called in former reports "West Quoddy") is a scattered settlement of about 300 people, situated on the south coast of Halifax county, eighty miles east from the city of Halifax and five miles west of Salmon river. The principal occupations of the people are fishing and farming.

During the fiscal years 1905-6-7, the Department constructed a pile wharf, with a freight shed on the ell, 20 by 13 feet, for the convenience of shippers. The wharf has a stone and gravel approach, 70 feet long by 25 feet wide, and the main portion, which is built of pilework, has a length of 216 feet and width of 25 feet, with an ell 27 feet by 26 feet, giving a face length of 51 feet. The total cost of this work was $2,854.38.

During the fiscal year 1915-16, the whole work was replanked, new guards and fenders placed, a number of new piles driven and new caps and floor-beams placed. The shed on the ell was overhauled and repainted. An amount of $976.91 was expended on this work.

Work commenced October 16 and completed December 26.

RAINY COVE.

(This work is described in the annual report for 1915.)

Rainy Cove, Hants county, is situated in the district of Pembroke. It is a small farming and lumbering centre with a population of about 175 people, situated on the south shore of Minas basin, nine miles east of Cheverie and three miles west of Walton.

During the fiscal year 1915-16, the sum of $3,931.77 was expended in completing the wharf four feet higher to bring it to the designed height, placing a 3-foot timber break along the seaward side of the work and sheathing the seaward face. The road was widened out to 20 feet and a cribwork protection built along the right of way 71 feet long by 20 feet wide.

Work commenced 1st July and completed 20th of November.

RIVER JOHN.

River John empties into the head of John bay, on the Northumberland strait, about 24 miles to the westward of the entrace to Pictou harbour. It has 3 feet at low water, or 11 feet at high water, over a bar at the entrance, and from 3 to 11 feet at low water in a very crooked channel up to the bridge, a distance of nearly a mile. The village is situated on each eide of the river, near the bridge, and about three-quarters of a mile from the station of the Oxford and Pictou Branch of the Intercolonial Railway.

A wharf on the south side of the river, immediately below the bridge, undertaken in 1899-1900, and completed in 1901-2, consists of a pile-head (bearing-piles creosoted), 60 by 20 feet with a crib-work retaining wall, 60 by 10 feet, at the back of it, and crib-work wing-walls, on either side, 10 feet in width and respectively 78 and 61 feet in length. The area enclosed by the retaining walls and the shore is filled in with clay covered with gravel. The depth at channel face is 9 feet. Spring tides rise 8 feet.

In 1910-11 the sum of $257.96 was expended in renewing the covering of the pile-head and placing a small quantity of ballast in the retaining walls.

During the fiscal year 1915-16, the sum of $103.36 was expended in placing a cluster of 6 piles, near upper outer corner of pile-head, to prevent damage by ice, pending renewal of mooring and fender-piles, etc.

Work was in progress in September.

ROCKLAND.

A full deseription of the wharf at this place has been given so often, that for a matter of a shed, it would appear superfluous. This wórk has been commonly termed East Ragged island, and all reference to it in the departmental files will be found under that name. However, the locality itself is known now as Rockland. East Ragged island, of which Rockland originally formed a part, is now confined to the southern end of the peninsula, and the name East Ragged island applies only to the southern end of the peninsula. The amount expended was $202.41. This is a ferry wharf, it being a stopping place for the subsidized ferry-boat which runs from Lockeport station to Lockeport town, and accommodated about 1,000 people who utilize this ferry at different times. A shed 10 by 14 feet was constructed. Besides constructing this shed, the corner fenders on this wharf had been broken and, in some instances, carried away, 8 feet of these were replaced and on each corner a buttress of six fenders was placed banding them together with iron bands at the top and chains at the bottom, making the buttress as solid as possible. Work was commenced September 25 and completed October 29, 1915. Spring tides rise here 7 feet; neap 4½ feet.

ROSS'S FERRY.

Ross's Ferry, Victoria county, is on the northern side of Boulardarie island, and on the southern shore of the Great Bras D'Or channel, about 13 miles to the westward of its entrance into the Atlantic.

During 1895-96-97, a wharf was built by the department at a point about half of a mile to the eastward of the ferry landing. It is 106 feet in length and 20 feet in width, with an "L" on the eastern side of its outer end, 30 by 22 feet, and extends to 12 feet at low water. It consists of a shore abutment of stone, 23 feet long, a creosoted timber-pile approach 61 feet long and of a crib-work block with creosoted timber substructure, 50 feet long and 22 feet wide.

In 1897-98, the wharf was connected with the public road by a road 320 feet in length, including a small bridge.

During 1909-10, the sum of $549.21 was expended in the renewal of floor-stringers, etc., and during 1910-11, the sum of $218.57 was expended in the partial reconstruc-

tion of the cribwork abutments of the small bridge on the road connecting the wharf with the public road, and in the purchase of a small warehouse at the outer end of the wharf.

During the year ended March 31, 1916, the sum of $28.63 was expended in the renewal of two mooring posts at the outer corners of the crib-work block.

ROUND HILL.

(This work is described in the annual report for 1915.)

Round Hill, Annapolis county, on the south or left bank of the Annapolis river, 8 miles east of the town of Annapolis.

In 1915-16, the sum of $500 was expended in renewing the floor on the stem of the wharf, 100 feet long and 16 feet wide, and a piece about 24 feet square on the ell.

ST. JOSEPH'S.

(This work is described in the annual report for 1915.)

St. Joseph's, Inverness county, is a fishing and a farming district on the western coast of Cape Breton island, about midway between the harbours of Margaree and Cheticamp, and about 1½ miles to the north-westward of the excellent boat-harbour of Grand Etang.

During the year 1915-16, the sum of $249.22 was expended, by day labour, in repairing the outer end of the breakwater which had been badly damaged during a heavy gale, accompanied by an extreme high tide.

ST. MARY'S RIVER.

(This work is described in the annual report for 1913.)

St. Mary's river is a fine stream, sixty-five miles in length, traversing valuable timber lands and discharging into the Atlantic Ocean, forty-eight miles to the westward of Cape Canso.

During the fiscal year 1915-16, the sum of $899.98 was expended in removing boulders, with the aid of a diver, from the ship channel between Sherbrooke and Goldenville wharf and in the "Narrows," about 1·3 miles below Sherbrooke.

Work was in progress in August, September and October.

SANDY COVE.

(This work is described in the annual report for 1915.)

Sandy Cove, Digby county, is a fishing and farming settlement of some 400 people, situated on the Bay of Fundy side of Digby neck, twenty miles south of Digby town.

In 1915-16, the sum of about $50 was expended in emergent repairs to the breakwater.

SEAFORTH.

(This work is described in the annual report for 1915.)

Seaforth, Halifax county, is a fishing and farming settlement, 24 miles east of Halifax and 3 miles west of Chezzetcook, with a population of about 160 people.

During the fiscal year 1915-16, the sum of $75.03 was expended in replacing broken plank in the floor of the breakwater, and in placing some new stringers. An additional sum of $37.91 was expended in the erection of a fence along the right-of-way to the breakwater. The work on the breakwater was done in November and the erection of the fence carried out in December.

SELMA.

Selma, Hants county, is a small agricultural village of about 200 people, situated on the south side of Cobequid bay, three miles from Maitland and twenty-three miles from Shubenacadie on the Intercolonial Railway.

In the year 1908-9, the sum of $6,955 was paid for the construction of a block and span wharf. The work is 375 feet long, the shoreward 285 feet being 20 feet wide, of block and span construction, and the outer 90 feet 25 feet wide of solid crib. The spans are 13 feet wide and the work has a height varying from 0 to 21 feet.

During the fiscal year 1915-16, the sum of $149.41 was expended in replacing a few floor-stringers and flooring.

Work done in October.

SHAD BAY.

(This work is described in the annual report for 1915.)

Shad Bay, Halifax county, is a small village extending over a sparsely settled extent of one and a half miles along the shore twenty-one miles from Halifax and two miles from Upper Prospect by stage.

During the fiscal year 1915-16, the sum of $500.58 was expended in the construction of the approach and the completion of the structure which now measures 145 feet in length by twenty in width, with an ell 20 feet wide and 31 long, giving a face length of 51 feet. The average height of the work is 10 feet, and the depth of water along the face at L.W.O.S.T. is 9 feet.

Work commenced November 8 and completed January 21.

SHAG HARBOUR.

Shag Harbour is a scattering village of about 600 inhabitants, situated about 6 miles northwest of Barrington, and about 40 miles southeast of Yarmouth town. The chief occupation of the people is fishing. In the fiscal years 1899-1900, 1900-1 and 1903-4, a total sum of $2,303.28 was expended in constructing a wharf for the accommodation of the public.

The wharf consists of a rock bank approach, 53 feet in length, 25 feet wide on top, and the wharf proper. The wharf proper is 221 feet in length, 20 feet wide, with the exception of the last 20 feet, which has a frontage of 40 feet, with a height, at the outer end, of 20 feet. The wharf proper consists of pile trestle bents located 10 feet apart between centres, well braced, waled and fendered. During the past fiscal year, the sum of $775.02 was expended in effecting necessary repairs to this work. The planking, stringers and guard rails were all renewed, 30 new fenders were put in place, a landing-drop for freight was installed, and a small stationary derrick was erected. Work commenced September 1 and ended October 30, 1915. Spring tides rise here 10 feet, neap 7 feet.

SHORT BEACH.

(This work is described in the annual report for 1915.)

Short Beach, Yarmouth county, is the name of a small fishing and farming village of about 100 people, 8 miles north of the county town, 1½ miles north of Sandford and 3½ miles south of Port Maitland.

In 1915-16, the sum of $56.86 was expended in petty and emergent repairs to the floor of the breakwater, which was damaged by heavy seas.

SIGHT POINT.

(This work is described in the annual report for 1915.)

Sight Point, sometimes called Port Ban, Inverness county, is on the western

coast of Cape Breton island, seven miles to the northward of the entrance to Mabou harbour.

During a severe gale in November, 1915, the outer block of the breakwater, constructed during 1907-8, was wrecked and partly washed away and the sum of $100.10 was expended in saving a portion of the materials and in repairing the outer end of the remaining work.

SMITH'S COVE.

Simth's Cove, Inverness county, is on the eastern shore of Smith's island, near its northern end, and opposite to and distant about one mile from the town of Port Hood, the shiretown of the county, situated on the mainland of the island of Cape Breton.

This cove was originally a good boat harbour, but of late years it has been gradually filling in with sand until it could not be entered at all, to the great inconvenience of the fishermen, who were obliged to drag their boats over the beach for safety during storms.

In order to relieve the situation, it was decided to open a channel into the cove, 50 feet wide and to a depth of 8 feet at low water.

The government dredge *Cape Breton No 6* commenced operations on September 4, 1914, and continued at intervals until October 6 following, when, during a heavy gale, the cut made was filled in again almost to the original depths, and the work was suspended. During that period, 3,450 cubic yards in place of sand and gravel were overcast, and 1,600 cubic yards, scow measure, were removed.

In order to prevent the sand from drifting into the cove, it was decided to construct a small breakwater on the eastern side of its entrance, before resuming the dredging. On January 19, 1915, instructions were received to expend the sum of $1,800 on the construction of this breakwater, 175 feet long and 12 feet wide, fully ballasted and sheathed on all outer faces. The work was placed in hand at once, but owing to the difficulty in obtaining the necessary materials, and to the inclemency of the weather, of the amount authorized, the sum of $1,019.87 only could be expended by the end of the fiscal year, and with this amount the construction of the cribwork proper, including the ballast flooring, was completed and about half ballasted, leaving the balance of the ballasting, the sheathing and the covering still to do to complete the work.

During the year 1915-16, the sum of $780.09 was expended by day labour in the completion of the small breakwater commenced during 1914-15, on the eastern side of the entrance into the cove for the protection of the proposed channel.

The government dredge *Cape Breton, No 6,* was detailed for the dredging of a channel into the cove, 200 feet long, 75 feet wide and to a depth of 10 feet at low water; of a basin in the cove, 250 feet in length, 150 feet wide and to a depth of 8 feet at low water, and to improve the depth of water on the western side of H. A. Smith's and on the eastern side of Joshua Smith's wharfs.

Dredging operations were commenced on September 15, 1915, and continued until November 29 following, when the work was suspended owing to the necessity of removing the dredge to Canso.

The work performed consisted in overcasting 10,373 cubic yards of material and in the removal of 18,235 cubic yards in place of sand and gravel.

The total amount of material removed by the dredge was 24,850 cubic yards, scow measure, and as this quantity measured 18,235 cubic yards in place, the expansion would appear to be about 36 per cent, which is abnormal, being about 10 per cent larger than is usually found in dredging similar material. This additional percentage is due to the shifting nature of the material, which was washed back into the cut, and had to be removed a second time.

The work, on suspension of operations, was not quite completed, the full depths proposed not having been reached over the whole areas, but as the depths obtained were sufficient to meet requirements, the parties interested were fully satisfied with the results obtained.

Owing to the shifting nature of the sand along this shore, it is not expected that the present depths will be maintained for any length of time. The breakwater built in the eastern side of the channel has proved beneficial as far as it goes, but it will be necessary in the near future to extend it.

SOUTH BAR.

(This work is described in the annual report for 1915.)

The South bar is situated on the southern side of Sydney harbour, at the entrance to its south-western arm, about 5 miles from the city of Sydney.

During 1915-16, the sum of $9.50 was expended in replacing some of the stakes placed along the beach to mark the western line of the government property.

SOUTH GUT.

(This work is described in the annual report for 1914.)

South gut, Victoria county, is the local name of the southern arm of the head of St. Ann's harbour, on the eastern coast of the island of Cape Breton.

The sum of $319.93 was expended, by day labour, during 1915-16, in raising, about 3 feet, the outer block of the work built during 1902-3, and which had settled about 2 feet into the muddy bottom since its construction.

SOUTH INGONISH.

(This work is described in the annual report for 1914.)

Ingonish bay, Victoria county, is situated on the eastern coast of Cape Breton island, about midway between Sydney harbour and cape North, and is divided into North and South bays, by Middle Head, a narrow and rocky neck of land, over 2 miles in length.

At the head of the South bay is an extensive lake separated from the sea by a beach, through which there formerly existed but a shallow channel.

During the year 1915-16, the sum of $2,499 was expended in procuring the balance of the materials required for and in the construction and completion of a further extension to the wharf, consisting of a cribwork block, 30 feet in length and 20 feet in width on top, connected to the old work with a span, 15 feet in length and 20 feet in width.

Ferry.

(This work is described in the annual report for 1915.)

During 1903, a wharf, 160 feet in length and extending to 16 feet at low water, was constructed near the ferry landing on the southern side of the harbour, near its entrance. The wharf consists of abutment and three inner blocks which are 16 feet wide and the outer block which forms the head is 30 by 30 feet; all blocks are constructed of round timber laid open-faced and the outer block has a creosoted timber sub-structure, and is close-sheathed on all outer faces.

On January 21, 1911, a contract was entered into for the construction of an extension to the wharf in the sum of $5,100. The work of construction was commenced on October 18, 1911, and was satisfactorily completed and accepted on December 20, following.

The extension consists of a span, 8 feet wide and 30 feet long, and of a cribwork block, 24 feet in length on line of wharf and 40 feet long on the channel face. The block consists of round timber cribwork creosoted to half tide, fully ballasted and fendered and protected by close-sheathing on all outer faces. The depth along the channel face, at low water of the new block, is 25 feet. Spring tides rise 4 feet.

The covering in the section of the wharf built in 1903-4, particularly in the centre where the traffic is heaviest, having become weak from wear and tear, during 1915-16, the sum of $77 was expended in placing new 2-inch planking over the old covering in the centre of the wharf for a width of 12 feet, and extending over the whole length of the original work.

SOUTH LAKE.

(This work is described in the annual report for 1915.)

South Lake, Lakeville, is situated on the western shore of St. George's bay, about midway between the entrance to Antigonish harbour and Cape George.

During the fiscal year 1915-16, the sum of $699.90 was expended in reconstructing and reballasting the outer 50 feet of the cribwork breakwater on the north side above high water, and renewing the sheathing from the bottom of the work to the top of the cap-timber at the outer end and for a distance of 110 feet inwards on each side with creosoted and hardwood sheathing.

On the south side, the sum of $349.91 was expended in constructing an extension 25 feet in length and 15 feet in width to the pile, brush and stone work.

Work was in progress in July on the south side and in July and August on the north side.

STONEHURST.

Stonehurst, Lunenburg county, is situated about 4½ miles, in an airline, in a southeasterly direction from the town of Lunenburg through what is known as Tanner's pass, and at the western extremity of this pass.

The work required is the dredging of a channel and mooring place for fishing boats. Each year, the fishermen of the vicinity are building larger boats and installing gasoline engines, necessitating more depth of water for mooring purposes. There are about one hundred people interested in this improvement, the place being well located and well sheltered. At present there are ten gasoline boats in the vicinity, drawing from three to six feet of water, besides numerous smaller craft. Fishing is the one and only industry, and the average catch per man is about $600 per annum, which will greatly increase when the dredging improvements have been completed.

During the season of 1915-16, dredge *P.W.D. No. 15* was operated at a cost of $738.85, the period of operation being from November 17 to December 7. The material taken out consisted of mud, 2,109 yards, scow measurement, being removed or 1,553 yards, place measurement, which shows an expansion factor of 35·8 per cent. The work done this year has a length of 466 feet, a width of 45 feet and an average depth of cutting of 2 feet and was taken out to a depth of 6 feet below L.W.O.S.T. The work, when completed, will have a length of 695 feet and a width of 145 feet, with a depth of 6 feet below L.W.O.S.T., 79,805 square feet yet remain to be dredged. No special difficulties were met with in connection with the work, as the material was soft and the harbour well sheltered. The probable duration of the improvement will be from four to five years.

SUMMERVILLE.

(This work is described in the annual report for 1915.)

Summerville, Hants county, is situated on the right or east bank of the Avon river, about midway between Windsor, the county town of Hants, and the mouth of the river, and about four miles south of Cheverie.

The work as it stands now has a width of 30 feet, for a distance of 250 feet, it then runs off at a deflection angle of 74 degrees, for a distance of 35 feet with a width of 34 feet, and from here runs parallel to its first course for a distance of 50 feet and width of 26 feet. There is a shed on the wharf, measuring 20 feet by 17 feet, and ice-break on one of the outer corners.

During the year 1915-16, the sum of $5.70 was expended in making minor urgent repairs to the planking of the wharf.

Work done in December.

SURRETTES ISLAND.

(This work is described in the annual report for 1915.)

Surrettes island, Yarmouth county, is one of the numerous archipelago lying off the south coast of the county. It is a mile and a half long by about a quarter of a mile wide and is separated from Sluice point, on the mainland, by a channel about 800 feet wide, through which ebb and flood tide flows with an alternating maximum current of seven to eight knots per hour. The population of the island comprises about 250 people, almost exclusively engaged in fishing.

In 1915-16, the sum of $148.96 was expended in improving, by hand digging, the boat channel between Surrettes island and Morris island, the improved channel being about three quarters of a mile to the south-east of the little public wharf known as Surrettes island wharf.

SYDNEY QUARANTINE STATION.

The quarantine station in Sydney harbour, is on the southern arm near Keating Point, and about three-quarters of a mile from Point Edward, at the eastern extremity of land lying between the south and west arms.

A wharf built by the department of Marine and Fisheries, and repaired and extended in 1902-3, consists of a block-and-span structure extending 148 feet at low water.

Spring tides rise 5 feet.

In 1903-4, the sum of $1,551.52 was expended in procuring creosoted timber and other materials to be used in repairing and extending the wharf.

The old wharf having fallen into such a dilapidated condition, as to render its reconstruction and extension inadvisable, the appropriation for 1904-5, was made for expenditure in constructing a new wharf, using materials procured in 1903-4. During the year, $1,667.66 was expended in procuring the additional materials required in the construction of a wharf to extend 173 feet to 10½ feet at low, or 15½ feet at high water, consisting of an inner and four intermediate blocks, 14 feet in width, and an outer block 20 feet in line of work by 40 feet, and in constructing the inner and three intermediate blocks.

During the fiscal year 1905-6, the sum of $1,098.97 was expended in completing the work in progress in 1904-5.

This wharf, besides being used in connection with the quarantine station, is also used as a port of call for the ferry steamers plying between Sydney and North Sydney, and is a great convenience to the inhabitants of the district of Point Edward.

During 1915-16, the sum of $302.97 was expended in raising and repairing the head of the wharf, which having settled, made it dangerous for the ferry-steamers to approach it during high water.

TATAMAGOUCHE.

(This work is described in the annual report for 1914.)

Tatamagouche, Colchester county, is an important town, on the Northumberland strait, 30 miles from Truro. It is also quite an important station on the Intercolonial short line running from Oxford Junction to Pictou.

East Side.

In the year 1888, the department built a small wharf on the eastern side of the river, at a point nearly opposite the mouth of the French river, where it empties into

Tatamagouche bay, about half a mile below the village. This wharf was 96 feet long by 20 feet wide. In 1900, the sum of $246 was spent in repairs and renewals. In 1912-13, the sum of $886.15 was spent in rebuilding the wharf which was, by then, in a very dilapidated condition. The present dimensions are 93 feet long, 20 feet wide, with an ell 9 by 20 feet, giving a face length of 29 feet. Repairs were made to the approach.

West side.

In the year 1905-6, the sum of $1,616.43 was expended in beginning the construction of a cribwork wharf, and in 1906-7 the wharf was completed. It consists of a cribwork-wall built over and around an ancient structure on the same side of the river as the village of Tatamagouche. The completed work is 97 feet long, 62 feet wide and at the outer end 4 feet high, giving a depth of 12 feet of water

In the year 1915-16, the sum of $387.75 was spent in replanking the top of the wharf and placing new stringers, cross logs and fenders.

Work begun September 20 and completed October 23.

THE HAULOVER.

The Haulover is a boat canal, or channel with cribwork sides, 1,208 feet in length, the channel being 6 feet deep. This channel crosses an isthmus which separates Port LaTour harbour from Negro harbour. It is 16 miles in a direct line south-southeast of the town of Shelburne and 14 miles northeast from Cape Sable. This cutting was made many years ago by the inhabitants, aided by the provincial government, in order to procure a clear passage from one harbour to the other, effecting a saving of from 7 to 10 miles, and also avoiding the dangerous passage around Blanche point and the neighbouring shoals and ledges. In 1890-91, this department expended $3,000 in rebuilding the whole work. It was deepened and widened, and walls on both sides were constructed of round-log stone-filled cribwork. These cribwork walls are 8 feet wide on top whilst the channel itself is 12 feet 6 inches wide at the bottom, 14 feet wide at the top. Several times since, repairs and renewals have been undertaken, as the channel was, from time to time, filling up, and the cribwork in places becoming weakened. During the past fiscal year, $698.77 was expended in deepening the channel and making repairs necessary to the cribwork. Some 50 logs were replaced in the cribwork, about 15 new fenders were put in, whilst we found that the approaches or mouths of this channel were obstructed by a number of rocks, which could be removed at a comparatively small cost. About 500 tons of stone were removed from the two approaches. Besides this, there was also a lot of sand, muck and eel-grass removed from the channel itself, amounting to about 200 cubic yards. Work was commenced October 6 and completed on the 11th November, 1915. Spring tides rise here 8 feet, neap 5½ feet.

THE SQUAM.

The Squam, Lunenburg county, is a channel between Moser's island, on the south, and Wolfe's island on the north, of the La Have island group about fourteen miles southerly from the town of Bridgewater. The object of the work here is to provide a shorter and safer route for fishermen around the islands.

During the year 1913-14, 1,250 cubic yards mud were removed, by hand dredging, at a cost of $499.47.

During the fiscal year 1915-16, 1,280 cubic yards, place measurement, of mud, were removed, having an expansion factor of 30 per cent, giving 1,664 yards, scow measurement. Work was done by hand dredging and day labour at a cost of $495.91 The work was widened 10 feet for its length of 960 feet, the depth of cutting being 13.6 feet. Work was commenced October 4, and suspended October 23, on account of the roughness of the weather.

The work remaining to be done consists of excavating, along the whole length of the channel, to a depth of 5 feet, and depth of 4½ feet, which, when completed, will give a channel having a total length of 960 feet, a width of 30 feet, and a depth of 4 feet below L.W.O.S.T. It is difficult to state what the duration of the improvement will be, but it is estimated that if $250 could be spent annually the channel would be kept open for navigation.

THE THRUM.

Upper Port La Tour is a small fishing settlement, situated on the shore of Negro Harbour, a distance of seven miles from Port Clyde.

During the past fiscal year, we expended $895.66 in constructing, in different fashion, the central portion of this work so as to make the protection sufficiently strong to resist all local conditions.

In order to make it absolutely safe, it was decided to replace the fence with a beach of strong form, of continuous cribwork, which is used in many places. The 300 feet constructed was at a cost of $895.66, using a large part of the material which was already on hand. The cribwork protection wall is 8 feet in width. This work was commenced June 4 and completed July 17, 1916. Spring tides rise here 8 feet, neap 5½ feet.

THE WHARVES.

(This work is described in the annual report for 1914.)

The Wharves, Lunenburg county, is a small settlement in the district of Cherry Hill, situated in an exposed position on the Atlantic coast, 5½ miles west of Petite Rivière. The population of the district is 200, chiefly engaged in fishing.

Near this breakwater there is a narrow neck of land through which the sea used to wash and endanger the boats lying in the harbour back of the breakwater. During 1915-16, the sum of $500 was expended in the construction of a beach protection across this low lying piece of ground. This work is constructed partially of stone and partially of stone-filled cribwork, the cribwork portion being 65 feet in length. The work may be described as follows: 36 feet of stonework at the sea end is 15 feet wide: adjoining this is the cribwork portion, 65 feet long by 12½ feet wide, with an average height of 5 feet; next 80 feet is of stonework, 12½ feet wide, and a 33-foot stone portion, 15 feet wide, completes the work.

Work commenced October 16 and completed November 6.

THREE FATHOM HARBOUR.

(This work is described in the annual report for 1913.)

Three Fathom harbour, Halifax county, is an irregular shaped inlet of the sea, about one mile in maximum length, from north to south, and from one-quarter to three-quarters of a mile wide, situated about fifteen miles to the east of Halifax harbour.

During the fiscal year 1915-16, the sum of $1,799.96 was expended in repairs to the protection work. The upper four feet of the structure, for 336 feet in length, was torn down and rebuilt.

Work commenced August 4, and completed November 20.

TIDNISH.

Tidnish is situated on the Tidnish river, about 1½ miles east of the boundary line between New Brunswick and Nova Scotia. In 1890-91, this wharf was constructed on the south side of the river's mouth. It is built of round log stonefilled cribwork, with a batter of one to twelve on all faces. It is 245 feet in length, the first 200 feet being

20 feet wide on top, whilst the outer 45 feet is 42 feet, and a height at the outer end of 14 feet. In the fiscal year 1902-3, this work was repaired at a cost of $1,440.72. During the past fiscal year, $413.40 was expended in repairing this work.

The work was rebuilt for a height of 5 feet, the planking, stringers, etc., being all renewed. This work was commenced May 1 and completed May 29, 1915. Spring tides rise here 7 feet, neap 5 feet.

TROUT COVE.

(This work is described in the annual report for 1915.)

Trout cove, Digby county, is on the Bay of Fundy coast of Digby neck, midway between Digby gut and Petit Passage, or about 18 miles from each. The settlement, at and near the cove, which is called Centreville, has a population of about 400, engaged in fishing and farming.

In 1915-16, the sum of $183.89 was expended in emergent repairs to the floor of the ell of the new breakwater, which had been damaged by heavy seas, and the temporary bulkheading of the outer end of the old breakwater, which was in danger of total destruction by the winter storms.

UPPER PORT LATOUR.

Upper Port Latour is a small village with about three hundred people, situated two miles northeast of Port Latour proper. In the construction of this wharf, which was begun in the fiscal year 1898-99, and the last expenditure made in 1903, $3,499.85 was expended. During the past fiscal year, $701.31 was expended in effecting necessary repairs. This wharf is 310 feet in length, consisting of a rock bank, 38 feet in length, 25 feet in width; 8 cribs, 18 feet in length, separated from each other by spans each 13 feet in length, and an additional span 15 feet in length and a crib 22 feet in length. With the exception of the last crib and span, the crib wharf is 20 feet wide, the latter portion having a frontage of 57 feet. It has a height, at the outer end, of 18 feet. The head of the wharf consists of a crib 22 by 37. Upon the outside of the head of this wharf is a small freight shed constructed by this department at a later date. During the past fiscal year, the work performed consisted of the renewal of the entire planking, stringers and guard rails. The outside corner was buttressed so as to avoid future damage, and about 30 fenders were replaced along the sides. It was commenced October 1 and finished October 25, 1915.

Spring tides rise here 9 feet, neap 7 feet.

UPPER PROSPECT.

(This work is described in the annual report for 1915.)

Upper Prospect, Halifax county, is a thriving little village of about 450 inhabitants, wholly dependent upon the fishing industry as a means of livelihood. It is situated about 23 miles west of Halifax, by stage, on the Atlantic coast.

Wharf.

During 1915-16, $502.20 was spent in placing new fenders on the face of the wharf, replanking a portion of the top, grading the approach and making some general repairs to the shed.

Work commenced November 5 and completed December 12.

Breakwater.

During the fiscal year 1915-16, the sum of $382.75 was expended in building a small block as a protection to the beach near the shore end of the breakwater, 20 feet in length and 8 feet in width, with an average height of 6 feet. A large hole in the

approach, back of this block, which had been washed out during heavy freshets, was filled in, sheathing placed along 50 feet in length of the breakwater from the shore end out, new fenders placed and general repairs made to the planking. The present dimensions of this structure are: length 202 feet, width 30 feet, with an ell running off at a deflection angle of 60 degrees, 68 feet in length along the seaward face and 30 feet wide.

Work commenced November 5 and completed March 31.

VOGLER'S COVE.

(This work is described in the annual report for 1915.)

Vogler's Cove, Lunenburg county, is an important fishing and farming district, situated on an inlet of Port Medway harbour, 15 miles west of the mouth of the La Have river and 20 miles, by stage, from Bridgewater. The population is about 400.

Wharf.

During 1915-16, the sum of $246.87 was expended in rebuilding the walls of the approach. The top of the wharf was repaired in several places and the beach cleared of rocks to make a safer boat landing, and poles were placed every 4 feet for a distance of 40 feet and width of 50 feet.

Work commenced August 25 and completed December 3.

Breakwater.

During 1914-15, the sum of $1,057.88 was expended in the purchase of material for the construction of a breakwater and landing skids about a mile distant from the wharf.

During 1915-16, the construction was carried out, with an expenditure of $999.10. A skidway was built for the use of the lobster fishermen, during the winter months, and a breakwater 135 feet long, by 15 feet wide, and 7 feet high, was also completed, as a protection to the skidway. A boat shed, 25 by 35 feet, and a capstan for pulling up the boats were constructed. The skidway is 100 feet long by 20 feet wide, built at the side of the wharf.

Work commenced June 9 and completed July 28.

WALLACE.

Wallace, Cumberland county, is situated on the Northumberland strait at the upper part of what is known as Wallace bay. It is a straggling farming settlement, the population on both sides of the harbour being from 1,500 to 1,600.

The shipping at this port is of a variable nature. The Wallace sand-stone or free-stone is famous on this continent, and forms the chief industry of this port. Late in the winter of 1915, a request was made for dredging in order to afford sufficient water to permit scows and tugs to be loaded at what is locally termed the Quarry Wharf or the eastern-most wharf. In compliance with this request, the dredge *Northumberland,* which had been operating at the East river for the past few seasons, was sent there, commencing work on the 31st May, and concluding the same on the 19th June, 1915. During that time, 19,444 cubic yards of material were removed.

The total area covered by the dredging was 89,400 square feet, making an average cut of 4·9 feet. Most of the material removed consisted of mud and clay with a considerable quantity, probably 10 per cent, of old oyster shells. The total length of the cutting was 830 feet. In front of the ballast wharf, a basin 260 by 160 feet was excavated. The next 160 feet, in a westerly direction, was varied in width from 35 to 75 feet, the remaining 410 feet was 75 in width, which carried the cutting 40 feet beyond the western side of the public wharf. Besides this, there was also excavated a basin 110 feet, along the eastern side of the public wharf, with a width of 75 feet. This work is more of a temporary nature and not liable to prove of permanent benefit. Spring tides rise 7 feet, neap 4½ feet.

WASHABUCK CENTRE.

(This work is described in the annual report for 1914.)

Washabuck, Victoria county, is a district on the south side of the eastern end of St. Patrick's channel, an arm of the Little Bras D'Or lake, and extends about 6 miles along the shore. As the name implies, Washabuck Centre, is situated near the centre of the district.

During 1915-16, the sum of $1,100 was expended in the renewal of the top of the wharf, built during 1903-4, consisting of floor-stringers, covering, cap-timbers and upper fenders.

WEDGEPORT.

Wedgeport (Tusket Wedge), Yarmouth county, is the name given to a peninsula 3 miles long, north and south, by ¾ of a mile wide, situated between Goose bay and the mouth of the Tusket river. The settlement on the isthmus and peninsula, 12 miles south-east from the town of Yarmouth, comprises a population of about 2,000 people, engaged in fishing and farming. The place was incorporated in 1909 under the name of Wedgeport.

A public wharf was begun here about the year 1879, by the provincial government, and finished by the Public Works department in 1884, at a cost of $850. It was a pile-work structure, 324 feet long, 30 feet wide and 13 feet high at the outer end.

In 1910-11-12, the department expended the sum of $7,247.31, in extending the work a further distance of 210 feet, in order to reach the channel.

In 1912-13, the sum of $1,709.80 was expended in completing the work. At the outer end, the wharf is now 25 feet high, carrying 12 feet of water at L.W.O.S.T.

In 1915-16, the sum of $297.68 was expended in repairs and renewals to the outer 50 feet in length of the pier, which was damaged by fire on the night of 22nd September, 1915.

WEST CHEZZETCOOK.

(This work is described in the annual report for 1915.)

West Chezzetcook, Halifax county, is situated on the Western side, on Chezzetcook inlet, which lies 16 miles east of Halifax.

Breakwater.

During the fiscal year 1915-16, the sum of $999.86 was expended in repairing 445 feet in length of the breakwater, by 15 feet in width. 4,284 lineal feet of timber has been secured under this year's appropriation and is on hand for the work during next year.

Work commenced October 1 and completed in March.

Wharf.

During the fiscal year 1915-16, the sum of $699.93 was expended in building a cribwork-block ell to the wharf, measuring 25 feet by 25 feet, with an average height of 20 feet. The wharf as completed, for a distance of 100 feet, has a width of 20 feet and the remaining 112 feet has a width of 25 feet, with an ell 25 by 25 feet, giving a face length of 50 feet.

Work commenced September 1 and completed in March.

WEST PUBNICO.

(This work is described in the annual report for 1914.)

West Pubnico, Yarmouth county, is situated 30 miles southwest of Yarmouth. Pubnico harbour is about 6 miles long, from the mouth to head, lying due north and south, and ¾ of a mile to a mile and a half wide.

In 1915-16, the sum of $377.64 was expended in extensive renewals and repairs to the shoreward 100 feet in length of the upper portion of the pier, including covering, plank, guards and stringers.

WHYCOCOMAGH.

(This work is described in the annual report for 1915.)

Whycocomagh, Inverness county, is a village on the north side of a bay of the same name at the head of St. Patrick's channel, an arm of the Bras D'Or lakes.

During 1915-16 the sum of $39.55 was expended in repairs to and renewal of covering to the wharf.

WINDSOR.

Windosr, Hants county, is an incorporated town situated at the head of Minas basin, on the Avon river. It is a station on the Dominion Atlantic Railway and the terminus of the Midland branch of this railway. It is 46 miles west from Halifax with a population of 3,500. In the neighbourhood are extensive gypsum quarries, from which about 120,000 tons are annually exported to the United States, and two or three million feet of lumber are also shipped from here each year, by water.

Since the fiscal year 1908-09, it has been found necessary nearly every year to make an expenditure for the removal, by hand dredging, of mud from in front of the government wharf. The expenditures made since this date have been as follows:—

1908-9	$5,046 22
1910-11	2,538 00
1912-13	3,000 00
1913-14	2,520 00
1914-15	3,000 00
1915-16	2,085 29

The amount removed each year varies from 3,000 to 5,000 cubic yards.

During the season of 1915-16, the sum of $2,072.79 was expended in removing 3,838.5 cubic yards, place measurement, the unit price of the work being 54 cents per cubic yard. $12.50 additional was expended in digging out the shoes of vessels, and some logs which were stuck in the mud. The area excavated was 620 feet in length by 90 feet in width, the cutting varying from 0 to 3.8, or an average of about 1.10 feet. Work was done by sluicing, contractor being W. W. Shaw of Windsor. The period of operations was from May 26 to August 12. This improvement only lasts for a season and has to be done again each year. The chief difficulty encountered is the fact that the work can only be done when the tide is out.

Wharf.

During the year 1915-16, the sum of $130.48 was expended in tearing down the shoreward portion of the work to a depth of 3 feet and length of 40 feet, over a width of 20 feet, and rebuilding with new cribwork, filling in back of cribwork with earth and replanking the top of the cribwork.

Work commenced September 1 and completed September 21.

WRECK COVE.

Wreck Cove, Victoria county, is at the mouth of the brook of the same name, on the northeast coast of Cape Breton island, 20 miles north from St. Ann's harbour and ten miles south from South bay, Ingonish.

A landing place for boats, near the mouth of the brook, was rendered unsafe by the diversion of the stream and the opening of the second outlet.

During 1890-1, the sum of $700, together with $200 paid by the locality, were expended by the department in the construction of a brush and stone dam, to confine the stream to its old channel and to restore the landing place to its original condition. The improvement proved successful, but as the stone in the dam had been disturbed in places and settled in others, permitting of the water, during freshets, to run over the low portions of the dam, during the fiscal year ended March 31, 1907, the sum of $500 was expended in raising and repairing the dam, and in extending it a distance of 100 feet; the course of the brook was also straightened above the dam by cutting away a point of the bank which threw the force of the water on to the dam.

During the year 1915-16, the sum of $749.02 was expended in raising and repairing the existing dam with brush and stone and in extending it for a further distance of about 200 feet down stream.

YARMOUTH.

Yarmouth, Yarmouth county, is an important town, with a population of about 6,000, situated on the western end of the province of Nova Scotia. It is the terminus of the D. A. Ry. (now C. P. Ry.), from Halifax 217 miles, and also of the steamer service with Boston, 240 miles.

In 1915-16, the Maritime Dredging and Construction Co., of St. John, N.B., under contract with the department, removed 14,907 cubic yards of fine muddy sand, scow measurement.

4,000 cubic yards at 35 cents	$1,400 00
10,907 cubic yards at 30 cents	3,272 10
	$4,672 10

Towed 4½ miles, from the dock of the Gateway Fish Company and from Amiro's point. These two works could not be separated in quantities, because the dredging in the dock needed only to be carried to a depth of from 4 to 11 feet, below L.W.O.S.T., while the dredging at Amiro's point had to be carried to a depth of from 15 to 20 feet, below L.W.O.S.T., therefore, as the tide receded, the dredge had to move from the dock to the point. The work was performed between the 2nd of July and the 1st of September, 1915.

The object of the dredging in the Gateway Fish Co's. dock was to enable schooners to lie alongside and load and discharge during a longer period of time during each tide.

The object of the dredging at Amiro's point was to facilitate the entry of schooners and other craft from the main channel into the secondary channel and approach to the Gateway Fish Co's. wharf and others.

The dredging in the Gateway Fish Co's. dock is comprised within a length of 309 feet by a width of 70 to 90 feet, the depth of cut varying from 3 to 8 feet.

The dredging done at Amiro's point is comprised within a length of 350 feet by a maximum width of 80 feet, the depth of cut being about 20 feet, and the material in both places a very fine, slightly muddy, sand.

The dredged areas will fill up by deposit of silt at a slow rate, and should not require redredging for 10 to 15 years.

YARMOUTH BAR.

(This work is described in the annual report for 1915.)

Yarmouth bar, Yarmouth county—Yarmouth harbour lies about NNE. and SSW. (true), and from the upper wharfs to the mouth of the harbour is nearly 4 miles. At about the middle of its length and for a distance of about three quarters of a mile, it is protected on its western side from the main waters of the Bay of Fundy by a beach

of gravel and shingle, connecting Cape Fourchu, an island, or more precisely a peninsula, with Stoney point, the southern extremity of the mainland, forming the western side of the harbour.

In 1915-16, the sum of $6,045.12 was expended; $1,914.08 in extensive repairs and renewals to the beach protection, several pieces, from 20 to 40 feet long, being taken down for half the width of the work and rebuilt from the bottom. The floor was repaired and renewed in many places; $4,091.83 in the extension of the groyne projecting from the beach protection, begun last year, the extension being 70 feet long, from 24 to 29 feet wide, on top, and 20 feet high; $39.21 in emergent repairs to the west end of the beach protection work, which was seriously damaged by a heavy storm in January. Permanent repairs could not be made owing to weather conditions.

Dredging.

In 1915-16, the Maritime Dredging and Construction Co., of St. John, under contract with the department, removed 16,002 cubic yards at 30 cents per yard ($4,800.66), of very fine, slightly muddy, sand, scow measurement, from the secondary channel leading from the main channel to the wharf of Messrs. Parker, Eakins Company, at and near the eastern end of Yarmouth bar. The dredging was performed between 14th July and 19th August, 1915.

The dredging performed is comprised within a length of 600 feet, and a width of from 80 to 150 feet, and was carried to a depth of 3 to 6 feet below L.W.O.S.T., the depth of cut varying from 4 to 9 feet. The normal range of spring tides is 15·24 feet, of neaps about 12 feet.

The dredged area will fill up by deposit of silt and sand at a rapid rate and will probably require redredging within 7 or 8 years.

PRINCE EDWARD ISLAND.

ALBERTON.

Alberton is situated on the northeast coast of the island in Cascumpec harbour. The place is about 55 miles, by rail, north-west of Summerside. To provide greatly needed shipping facilities, the department, in 1914, took over the control of the old structure, the property of the local government. This wharf is in the shape of a " T ", having an approach 20 feet wide, 463 feet long and a pier head 130 feet long by 35 feet wide.

During summer and fall of 1914, the reconstruction of the approach was effected at a cost of $1,983.07. During the present season the pier head was reconstructed. Creosoted bearing-piles were driven; these waled and capped and the top floor stringered and planked, while the sides were fender-piled. Work was commenced June 4 and continued up to completion on November 24, the total outlay for the season being $2,971.58, while the entire cost of reconstructing the wharf as represented by the outlay for the two years, 1914 and 1915, is $4,954.65.

ANNANDALE.

Annandale is situated on the north side of the Grand river, King's county, immediately within its entrance into Boughton bay, on the east coast of the island. The river is navigable for large vessels for a distance of 4 miles above Annandale, and for smaller vessels a distance of 7 miles. It traverses and affords shipping facilities for a large and fertile farming district.

Of late years, the sand bar, about one mile out from the river's entrance, was found to have shoaled until it only carried from 4 to 6 feet at low water spring tides, which here rise 5 feet. To facilitate the fall shipping in 1914, temporary relief was given by the departmental dredge *Montague*, making a fifty foot cut, carrying about 10 feet of water on the bar, the centre of the cut being directly in line with the leading range lights.

During the present season, the work thus started was continued, according to a general plan for the improvement of the river, both here and immediately within the harbour, where some shoals were impeding navigation. Work was commenced June 1 and continued to October 9, 1915, during which time 37,600 cubic yards, scow measurement, of mud and sand were removed. The work effected was, first, a channel over the bar, 80 feet in width, 1,200 feet long, carrying 10 feet at low water spring tides; second, cleaning up of approach to the wharf for a distance of 1,200 feet, the channel formed being from 100 to 150 feet in width, and last, cleaning out of the middle ground, which had formed in the channel just above Annandale, the depth given being 10 feet, with width of 100 feet for a length of 700 feet.

In order to facilitate the work in cleaning up of approach to wharf it was necessary to overcast 500 cubic yards of material, 400 of which were afterwards redredged and scowed away. The permanency of the depth made over the bar is very doubtful, as the material dredged was mostly all sand of a shifting nature.

BELFAST.

Belfast is situated on the south side of Orwell bay, about one mile north from the Village of Eldon. Its construction, dimensions, etc., are fully described in departmental report of 1905-06. While the pier-head was reconstructed and thoroughly strengthened during summer of 1914, some minor damage was done to the covering and warehouse by the extraordinary high tide and storm of September 27, 1915. To effect the temporary repairs necessary to carrying on fall shipping, work was commenced November 2 and completed November 19, at a cost of $71.51.

BELLE RIVER.

Belle River is situated on the south side of the island about four miles from Wood Islands and six miles east of the entrance to Pinette harbour. The harbour consists of breakwaters along the beaches on either side of the river's entrance; that on the north side now having a length of 450 feet. Within the harbour are three small shipping piers, one of which was constructed by the department in 1912.

As the works were originaly started many years before Confederation, some of the older parts require reconstruction from time to time. Such was the case during the past summer, practically the whole original portion of the south breakwater, having a length of 210 feet, being rebuilt; new wall timbers, ties, fenders, ballast, floor-stringers and covering being put in and the work left in good condition. Work was commenced June 1 and continued up to completion on October 19. The total cost of the repairs was $2,649.51.

In addition to the above a small warehouse 18 by 24 feet with 9-foot posts, was constructed, work starting August 17 and finishing September 10, at a cost of $222.22.

BONSHAW.

Bonshaw is situated at the head of navigation for small boats on the West river, about 15 miles west of Charlottetown. On the upper stretch of the river, navigation has been greatly impeded by the presence of stumps, snags, logs, slabs, etc. For improvement, the removal from the channel of as many of these obstructions as was possible, by hand, was first undertaken in 1913, that done being considered so beneficial as to warrant continuance in 1914, and further carried on during the past season.

Work was commenced June 9 and continued, as tide and weather permitted, until July 16, during which time 735 snags, logs, etc., that interfered with navigation, were removed from the channel. The cost of the season's work amounted to $167.50. The total expenditure at the place for the three years is $787.58.

BRIDGETOWN.

The village of Bridgetown is situated at the head of navigation on the Grand or Boughton river, Kings county. It is surrounded by a rich agricultural district, interested in the improvement of the river as a means of transportation for surplus farm produce, and import of coal, limestone and general merchandise. The upper 4,000 feet of the river being very shoaly and difficult to navigate, improvements were commenced by the departmental dredge *Montague*. Work commenced October 16, on a cut 75 feet wide, to carry 9 to 10 feet at low water spring tides. The quantity involved in connection with improvements is estimated at 59,000 cubic yards, scow measurement, of which 21,000 cubic yards were removed up to November 24, when operations were suspended, owing to freezing over of the river. The work done to that date having a length of 2,400 feet and width of 55 feet, carrying a depth of 10 feet. It is intended to resume the work on opening of navigation next spring.

BRUDENELL.

Brudenell is situated near the head of navigation, on the Brudenell river, about 3½ miles west of Georgetown, and about 2 miles southward from Cardigan station, on the Georgetown branch of the Prince Edward Island Railway. As the wharf, the property of the local government, was an old structure, allowed to get out of repair, it had become impassable, and, being the only one in vicinity, its entire reconstruction has been undertaken by the department. The wharf has a length of 274 feet, consisting of approach, 244 feet long, 20 feet wide, and a pier head, 30 feet by 30 feet. The foundation is formed of pole-work with close-face square-timber superstructure, the whole solidly filled with ballast, and roadway of approach to be formed with broken stone and gravel, while the pier head is floor-stringered and planked. Commencement of operations were delayed until September 15, owing to delay in procuring suitable material. The work, however, from above date was carried on continuously up to December 31, when nearing completion, had to be suspended owing to weather conditions; that remaining to be done consists of grading of roadway approach, etc., estimated to cost approximately $500. The total expenditure during the season was $3,096.44.

CAPE TRAVERSE.

Cape Traverse is situated on the Northumberland straits shore of the island, at the terminus of the Cape Traverse branch of the Prince Edward Island Railway, and about 2½ miles to the eastward of site of car-ferry dock.

The wharf, an old structure, was built by the Provincial Government in 1869, taken over and rebuilt by the Railway department in 1885, and abandoned by it in 1895, repaired by this department in 1907, and at different times since, as occasion required. It now has a length of 1,200 feet, with width of 32 feet. During the past summer, repair of 100-foot section of the north wall, cross-ties, stringers and planking was effected, work starting May 26, completed August 7, at a cost of $1,335.55.

CARDIGAN RIVER.

South.

Cardigan River, (South) is situated on the south side and near the mouth of the Cardigan river, about 1½ miles, by land, north of Georgetown, and 6 miles by water. It was originally constructed by the Provincial Government many years ago, and being

allowed to become out of repair and impassable, it was taken over and reconstructed by the department, as fully set forth in departmental report for 1914-15.

During the present season, some washout of the roadway having been caused by high storm tide of September 27, its repair was effected by making up with broken stone and gravel. Work was started November 9 and completed November 19 at a cost of $99.37.

CHAPEL POINT.

Chapel point is situated on the south side of the Grand river, King's county, about 3 miles above its entrance into Boughton bay. The wharf was originally built by the government in 1884, since when it has required considerable expenditure, from time to time, to keep it in a passable state for traffic. The work has a length of 308 feet, comprising approach, 282 feet long, 22 feet wide, and a pier head, 26 feet long by 29 feet wide. The work is constructed of close-face square-timber crib solidly filled with ballast, the roadway of approach being formed of broken stone and gravel; the pier head was reconstructed in 1909 by driving creosoted bearing piles, these waled, capped and the top floor-stringered and planked.

During the present season, some temporary repairs were effected to a former arch, which had been filled with poles; these having settled, were made up and roadway repaired, while general repair to the covering of the pier-head was effected where required. Work was started July 19 and completed July 30, at a cost of $207.65.

CHARLOTTETOWN.

Charlottetown, the capital of Prince Edward Island, is a city advantageously situated on the north bank of the Hillsborough river, a short distance within the entrance, and at a point where the deepest water approaches nearest the shore; the wharfs, however, require being built out some distance to reach the edge of the channel; so that dredging is required from time to time to render their sides and docks of service.

During the season, some improvement of the harbour front was effected by the departmental dredge *Prince Edward,* operating first at the Prince street wharf, where shipping berth and approach to boating house was formed, having a width of 60 feet by about 160 feet in length, now carrying 6 feet at low water spring tides. Work was started June 16 and completed July 3, 3,225 cubic yards, scow, of mud being removed. Owing to lack of depth to float plant on inner end of berth, it was necessary to overcast 200 cubic yards of material to facilitate the work, this was afterwards redredged and scowed away.

The dredge was then removed to Pownal wharf, where some cleaning out of the cut on the west side of the wharf was done, while a berth 60 to 80 feet wide, with length of 275, was cleaned up to 16 feet at low water spring tides on outer part, the inner portion grading up to 10 feet. Work was commenced July 6 and completed September 2, 9,175 cubic yards, scow, of soft mud being removed. During progress of the work it was found necesary to overcast 600 cubic yards of material to obtain floatation for plant; this was afterwards redredged and scowed away.

Work at the railway wharf, forming berth 60 feet wide, 345 feet long, carrying 12 feet at low water spring tides, and one immediately inward, 50 feet wide, 275 feet long, grading up to 8 feet at inner end, was started November 16, there being removed up to 7th December, when work was suspended for the season, 5,350 cubic yards, scow measurement, of soft mud. It is proposed carrying this work through to completion immediately on opening of navigation next season.

Before dismantling the dredge for winter, two days work was authorized to be undertaken in connection with extension of berth west side of Hogan's wharf; this to accommodate vessels engaged in the lumber business. During December 11 and 12,

250 cubic yards, scow measurement, of brick, clay and shelly rock, were removed in lengthening berth 30 feet, having width of 35 feet, to a depth of 9 feet at low water spring tides.

Marine Slip.

Contract for dredging approach, carrying 20 feet at low water spring tides, and seat to rock, grading from 25½ up to 0, for proposed slip-way, was awarded to Mr. V. T. Bartram, of Toronto, March 23, 1914, for the removal of 130,000 cubic yards, place measurement, of sand and mud, at 28 cents per cubic yard. Work was not commenced until October, when, by the time operations were suspended for season, December 16, only 48,770 cubic yards, place measurement, had been removed. Work on the balance was resumed April 20, 1915, but again suspended July 3, owing to the overturning and sinking of the operating dredge; 41,366 cubic yards, place measurement, being removed and 851·4 cubic yards overcast, costing at contract price $12,120.19. No further work has since been done, a balance, therefore, of approximately 40,000 cubic yards, place measurement, still remains to be removed in order to complete the contract.

DARNLEY BASIN.

Darnley basin is situated on the north coast of the island, near eastern side of the entrance to Malpeque harbour. It has a length of two miles by three-quarters of a mile in width, carrying a depth of 15 feet at low water spring tides, excepting at southern end and near entrance to Baltic creek. The district surrounding contains a population of about 800, engaged principally in fishing and agriculture. During fishing season, some forty boats, most of them gasoline motor, utilize the basin and give direct employment to about 100 men, the value of the fish landed approximating $30,000. Owing to the shoal-depth carried at the southern end of basin, only very light-draft boats could reach shelter, the larger craft being forced to anchor in the basin, exposed to severe storms, which cause frequent loss. To make a shelter above the bridge available to all, the departmental dredge *Pownal* commenced operations May 11, on a cut 2,250 feet long, with width of 40 feet, carrying 5 to 6 feet at low water spring tides, which was satisfactorily completed on August 14, the total amount of material removed in connection therewith being 10,175 cubic yards, scow, of principaly stiff oyster mud. To facilitate the work, it was necessary to overcast 10,500 cubic yards of material, 4,800 of which were redredged and afterwards scowed away. Place measurement surveys give an expansion factor of 31 per cent as compared with scow measurement.

FRANKLYN POINT.

Franklyn Point, opposite the entrance to Charlottetown harbour, is situated on the west bank of the North river, near its confluence with the West and East rivers, A wharf, having ferry accommodations was constructed by the department in 1913 and 1914, having a length of 540 feet, with two guide piers, 115 feet long, forming a ferry doek. As the wharf only extends out to 10 feet of water at low water spring tides, and this at the outer end only, it was necessary to provide shipping berths along the outer sides of the guide piers by dredging. For this purpose, the departmental dredge *Prince Edward* commenced operations October 18, on berths 120 feet long by 60 wide, each to carry 10 feet at low water spring tides. Work was completed November 12; 4,250 cubic yards, scow measurement, of mud, clay and boulders being removed.

GEORGETOWN.

Georgetown harbour is situated on the south-west side of Cardigan bay, about three miles within, or to the north-west, from Panmure Head, which is distant 9 miles to the northward from Cape Bear. It is the finest harbour in the southern

part of the gulf, excepting Charlottetown, having depth of water and space sufficient for the largest ships. The rise of ordinary spring tides being only 5 feet is a great disadvantage as compared with Charlottetown, but, on the other hand, the ice does not, in general, form in it so soon in the fall by several weeks, and breaks up earlier in the spring.

Georgetown, the shiretown of King's county, is situated on the north shore of the harbour, and is a place of about 1,000 inhabitants; it is the terminus of the Georgetown Branch of the Prince Edward Island Railway and the present winter port for the island. Change having been made by the Marine and Fisheries department, in vessels being used for the winter service between Gorgetown and Pictou, N.S., and it being found that the water at the Georgetown railway wharf was not sufficient for the accommodation of the new Dominion Government steamer, *Prince Edward Island*, work was commenced on an extension and in deepening of berth on west side of the wharf by dredge *No. 9*, on December 21, and continued up to January 17, 1916, during which time 4,600 cubic yards of hard clay, boulders and shelly rock were removed. When operations were suspended, owing to ice conditions, this berth carried a depth at low water spring tides of 22 feet at its outer end, grading up to 19½ feet a distance of 350 feet inward from outer end of wharf, the average width being 75 feet.

To give sufficient accommodation to above steamer there still remains some 1,400 cubic yards to be removed; this principally in widening inner portion of berth; expansion factor 35 per cent.

HIGGIN'S SHORE.

Higgin's Shore is situated on Egmont bay at the mouth of the Percival river, about 10 miles north of Cape Egmont, and is the shipping point for a district of about 1,000 inhabitants, engaged principally in fishing and agriculture.

The wharf at the place was built many years before Confederation by the Provincial Government, its description, etc., being fully stated in departmental report for 1910.

During the past season, the repairs of washout to the roadway, caused by the extraordinary tide and severe storm of September 27 last were made, work being commenced November 15, and satisfactorily completed December 11, at a cost of $174.75.

KIER'S SHORE.

Kier's shore, Malpeque, is situated on the eastern side of Richmond bay, and is the shipping point for the Malpeque district, a large farming community of fully 1,500 inhabitants, exporting large quantities of farm produce and importing coal, lumber, etc., the annual value of which may be placed at from $50,000 to $75,000.

With the view of improving the channel approach to the wharf, the extension of the dredged cut was undertaken, that laid down being a cut 150 feet wide and 1,050 feet in length, extending from outer end of previous dredge cut to the 10-foot contour line in the bay at low water spring tides, cleaning up and widening to 100 feet, as well, the dredged channel, 1,350 feet in length, leading to the wharf. Work was started by the small departmental dredge *Pownal* on August 24, and carried on about continuously until December 6, when suspended for the season owing to weather conditions. During this time, 16,175 cubic yards, scow measurement, of principally hard mud and brick clay were removed, most of the work being confined to outer portion of approach. The depth of water was also improved over shipping berths on south side of the wharf, the dredge effecting this when stress of weather did not permit working on the approach It was necessary during the work to overcast 1,725 cubic yards of material, 1,375 of which were redredged. As there still remains 12,325 cubic yards of material to be removed, in order to complete improvements as laid down, it is proposed the above dredge continue operations at the place on opening of navigation of season of 1916.

From a careful place measurement survey made after work was suspended for season, the expansion factor was found to be 26 per cent compared with scow measurements returned.

LAMBERT'S.

Lambert's is situated on the southern side of the Montague river, immediately below the highway bridge at the village of Montague, a place of about 1,000 inhabitants, and one of the island's busiest shipping centres, spring and fall. The work has a length of 310 feet, running parallel with the channel, its width being 25 feet.

During the present season, the renewal of the entire covering and some of the floor-stringers and curbing was effected, fender piles, as well, being put along the channel face. Work was commenced September 27 and completed October 22, at a cost of $894.01.

LITTLE SANDS.

(This work is described in departmental report 1913-14.)

Little Sands is situated on the south side of the island, about 8 miles west of Cape Bear and 4 miles east of Wood Islands harbour.

During the season of 1914, a close-face square-timber crib wharf was constructed for the department, under contract by Messrs. Phillips, Mutch & McLean. The wharf has a length of 240 feet, 30 feet wide on top, at the inner end, for a distance of 60 feet, the aprpoach was formed of broken stone. Severe storms and high tides washed this out, and during the present season, it was found necessary to construct a temporary plank approach. Work was commenced October 4 and compleed October 27, at a cost of $213.85.

MCEACHERN'S.

Is situated on the north side of the West river, about 6 miles above the entrance to Charlottetown harbour, being distant about 7 miles west from Charlottetown, by water, and about 11 miles by road. The immediate surrounding district, rich in agricultural and dairy products, contains a population of over 250 directly interested in shipping facilities. The old pier, which had a length of 230 feet, was built many years ago by the Provincial Government, its repair of late years, however, being neglected, it had become impassable. In 1913 and 1914, the department entirely reconstructed the wharf.

During the present season, shipping berths have been formed at the western side, and outer end, by the departmental dredge *Prince Edward,* carrying 8 feet at low water spring tides. Work was in progress September 4 to 14, during which time 1,800 cubic yards of sand and mud were removed, 800 cubic yards of overcasting, which was afterwards redredged, being required in connection with the work.

MCPHERSON'S COVE.

Is situated on the south side of the Grand or Boughton river, King's county, a short distance within its entrance into Boughton bay. It is the shipping point for the supply farm and dairy products of a district of about 400 inhabitants. The wharf was constructed by the department in 1904, an extension being added in 1907-8, and consists of approach, 670 feet long by 20 feet wide, and outer part, 230 feet long by 30 feet wide, constructed of pole-work foundation and close face square timber superstructure, full ballasted, with roadway formed on approach of broken stone and gravel, while outer portion is floor-stringered and planked. Shortly after construction of extension, shipping berths were formed on each side of the outer end of wharf, this causing some settlement in the work adjoining.

During the present season, this has been made up, and the work strengthened by piling and put in good repair generally. Work was commenced July 12 and completed September 30, that done being raising a sixty-foot section, 2 feet, piling, etc., costing $1,057.23.

MIMINIGASH.

Miminigash is situated on the west coast of Prince Edward Island, about 15 miles south of North cape, and 18 miles north of West Point. Works for the formation of a boat-harbour were commenced by the Dominion Government in 1878 and since continued, from time to time, till now consisting of piers or breakwaters, on either side of the "Run," as fully described in department report for 1912-13.

During the present season, some minor repairs to the top portion of the north breakwater has been made necessary by the extraordinary high tide of September 27. Work was commenced November 15 and completed November 27, at a cost of $149.87.

MURRAY HARBOUR SOUTH.

Murray Harbour South is situated at the head of navigation on the South river, at the south-eastern extremity of King's county, and is the shipping point for a very fertile agricultural district.

During the seasons of 1913 and 1914, extensive improvements were effected to the channel by dredging. In the present season, from January 17 to 20, some minor repairs were made to portions of covering on the wharf, and new mooring post put in at a cost amounting to $26.22.

NORTH CARDIGAN OR NEWPORT.

Is situated on the north side of the Cardigan river, a short distance above its entrance into Cardigan bay, and about 5 miles by water below the village of Cardigan Bridge. It is one of the Prince Edward Island piers, assumed by the Dominion Government in 1884, since when it has been about entirely rebuilt by the different repairs and improvements effected to it from time to time, as fully described in departmental report for 1904-5.

During the present season, work was commenced November 25, on repair and making up of the roadway with broken stone and gravel, where damaged by high storm tide of September 27. The work was completed December 3, at a cost of $101.63.

NORTH RIVER BRIDGE.

Is situated at the head of navigation on the North river, about 4½ miles, by water, from Charlottetown. Replacement of the wooden bridge, here crossing the river, by a steel structure, made its further use for purposes of shipping, impossible. To fill the want thus caused, the department in 1914, constructed a small shipping pier immediately below the highway bridge, as described in departmental report of 1914-15.

During the present season, shipping berths have been formed on either side of the wharf, extending inwards 80 feet, and having a width of 40 feet, grading from 10 feet up to 6 feet, on inner end, at low water spring tides. Work was commenced by the departmental dredge *Prince Edward*, September 18, and completed October 16, removing 4,350 cubic yards, scow, of mud, clay and gravel, 340 cubic yards of overcasting being required, which was all redredged and scowed away excepting 40 cubic yards.

PANMURE ISLAND.

Panmure island is situated on the east coast of Prince Edward Island and on the south side of the entrance to Georgetown harbour. During 1904-5-6, the department

constructed a small wharf or boat-landing on the south side of the island, on St. Mary's bay, and in 1907-8 added an extension, to reach low water mark, to that originally constructed, as described in departmental report for 1907-8.

During the past season, the settlement and washout in roadway, caused by severe fall storm, was made up with broken stone and gravel, work commencing December 6 and completed December 11, at a cost of $50.

Dredging.

As the wharf only extended out to low water mark, in order to provide a better approach from the deep water in the bay also to form shipping berth at its head, work was commenced December 2, by dredge *No. 9*, and continued so long as weather conditions would permit, or up to December 15, during which time 4,900 cubic yards, scow measurement, of sand, brick, clay and mud were removed, of the 12,000 cubic yards estimated necessary to give the desired accommodation. The work done was confined to the approach, having a length of 425 feet and width of 60 feet, to carry not less than 9 feet at low water spring tides. The balance of the work, or that necessary in connection with forming shipping berth and turning basin in front of wharf, will be undertaken immediately navigation opens next season.

PINETTE.

Pinette is situated at the head of navigation on the Pinette river, about two miles from its entrance into Northumberland straits, being distant from Charlottetown, by water, about 20 miles in a southerly direction. The pier, the property of the Dominion Government, is 128 feet long by 28 feet wide, and constructed by close-face timber work, being floor-stringered and planked over; it faces on the river channel, where upwards of 8 feet of water is available at low water spring tides.

During the present season, the department constructed a warehouse, 16 by 20 feet, having 8-foot posts, square-pitch shingle roof, battened sides and suitable windows, doors, etc. Work was started June 25, and the building was completed September 30, at a cost of $270.99.

PORT SELKIRK OR BRUSH WHARF.

Port Selkirk or Brush wharf is situated on the south side of the Orwell river, at its entrance to Orwell bay. It is distant from Charlottetown, by water, about 20 miles, communication being had twice weekly by a steam-passenger and freight packet. The pier, built many years before Confederation, is in the shape of a "T," consisting of a pier-head, 230 feet long and 35 feet wide, fronting on the edge of the channel, the approach being 250 feet long by 23 feet wide; all, with exception of inner portion of approach, is composed of a series of close-faced sawn-timber blocks, with intervening spans, floor-stringered and planked over. During the present season, some temporary repairs were effected to the piling on the northwest corner of the work, from September 29 to November 4, at a cost of $60.37.

POWNAL BAY.

Pownal bay is situated on the north-eastern part of Hillsborough bay, about 9 miles from Charlottetown. It is the shipping point for a large agricultural district. The wharf was constructed by the Provincial Government before Confederation, its control being assumed by the Dominion Government in 1883-84. It has a length in all of 760 feet, the approach having width of 19 feet, while outer 90 feet, or pier head, carries a width of 40 feet. The work was composed of a series of "blocks" and "spans," the latter thirteen in number.

Owing to the span-beams and covering and portions of approach becoming defective, it was decided to reconstruct and repair the approach, filling in some of the spans

with poles, and forming a clay roadway over them. Work was commenced August 16, by December 10 it was suspended, owing to weather conditions, 400 feet of the inner portion of approach had been reconstructed, new face-timbers, guard and fenders being put in where required, five of the inner spans being filled with poles, while three of the outer ones were narrowed down with creosoting bearing-piles, these capped, stringered and planked, all at a total expenditure of $2,505.84 There still remains some necessary repairs to be made, principally to pier-head, estimated to cost $2,000, which were impossible to complete last season, owing to difficulty in procuring suitable material.

RED POINT.

Red point is situated on the southern side of the Hillsborough river, six miles east of Charlottetown, and is a shipping point for a large agricultural district having railway facilities. The wharf was built by the Provincial Government, and in 1897 its control was assumed by the Dominion. It has a length of 650 feet and is 21 feet wide, excepting on the outer 53 feet, which the department, in 1912, widened to 35 feet.

During the present season, considerable repairs and reconstruction has been effected to the walls of approach, portions of the original work being entirely rebuilt, fendered, etc., while two of the outer spans were narrowed down to 20 feet with creosoted bearing-piles, these capped with 12 by 12-inch timber, stringered and planked over and the whole work put in good and serviceable condition. Work was commenced July 23 and completed December 8, at a cost of $2,072.50.

ROBINSON'S ISLAND.

Robinson's island is on the eastern side of the entrance to Rustico harbour, on the north coast of the island. The place is a very important fishing station, the surrounding districts containing fully 3,000 inhabitants. This work was constructed by the department in 1906-7 and consists of a breakwater 750 feet long, the inner 200 feet being of round-log cribwork 12 feet wide, the balance being of pile-bents, close-piled, 16 feet in width, the outer fifty feet being 24 feet in width.

During the past season, some settlement in the ballast was made up at outer end of the breakwater, and piling renewed where most exposed to heavy seas and running ice. Work was commenced September 13, but suspended on November 20, was resumed early in February, when the settlement, in a length of 80 feet of the cribwork, immediately inward of the breakwater, was repaired and a low portion of the beach to the eastward, about 300 feet in length, protected with brush and stone; this to prevent heavy seas from washing away the beach. The work was satisfactorily completed February 20. Total expenditure for fiscal year was $1,269.75.

ROCKY POINT.

Rocky point is situated on the south side of the West river, immediately within, and to the west of the entrance to Charlottetown harbour.

To accommodate probable shipping, the department entered into a contract, on the unit price basis of payment: (*a*) for a work consisting of approach, 22 feet wide, 507 feet long, containing three spans, and constructed of pole-work foundation with close face-sawn square-timber superstructure, solidly filled with ballast and sides fendered, roadway of broken stone and gravel being formed on top, a sidewalk and hand-rail extending along eastern side; (b) pier head, 157 feet long, 22 feet wide at inner end, and spreading to a width of 84½ feet at outer end, being of exactly similar construction to approach, excepting that the top is floor-stringered and planked, and outer end contains berth, 23 by 65 feet, for ferry landing floats; (*c*) guide piers, two in number, constructed of solid face-sawn 12 by 12-inch timber, full ballasted, averaging about 115 feet in length, 24 feet wide on top, and so placed as to form a dock for ferry steamer,

their inner or dock sides being sheathed with 10 by 10 hardwood, outer ends close-piled, and outer sides fendered at 5-foot centres, roadway on top is broken stone and gravel.

Work was first commenced June 2, 1914, and suspended for season October 26, the approach, inner 92 feet of pier-head and warehouse being then about completed. Operations were resumed on May 7 and satisfactorily completed October 4. The total cost of the work, which was built on a unit price basis, being $30,334.84.

Dredging.

To make the wharf available for the purpose for which it was constructed, a contract for dredging was awarded to Mr. V. T. Bartram, June 29, and operations commenced by dredge *Edmund Hall, No 1,* August 10, the contract price being 16·95 cents per cubic yard, place measurement. The work which was completed December 1, involved the removal of 57,624·3 cubic yards, scow, and 2,808·4 cubic yards of overcasting, costing, at contract price, $10,084.65, and consisted of forming a channel approach to wharf, 1,250 feet in length by 150 feet in width, the entrance being "bell-mouthed" to a width of 300 feet. The dock for ferry steamer was also cleaned out, and berths 200 feet in length with width of 60 feet, formed on each side of the guide piers. The depth made was 9 feet at low water spring tides, or 18½ feet at high water, that here rise 9½ feet, the nature of material removed being soft mud and brick clay.

RUSTICO.

Rustico is situated on the north coast of the island at about its central portion, and is one of the most important fishing stations. For improvement of the harbour's approach, which is obstructed by a shifting sand bar, the department, during 1881-82-83-84, constructed works on either side of the entrance for the purpose of confining the current at ebb tide, thus, by scour, deepen the water. The works, as at present, are fully described in departmental reports for 1908-9.

During the past season, December 1 to 18, the sum of $112.54 was expended in making renewals as found required to the covering on top and sheathing on sloping face or seaward side of the breakwater.

ST. MARY'S BAY.

St. Mary's Bay is situated on the south side of St. Mary's bay, about 5 miles, by water, south of Georgetown, the shiretown of the county. It is the shipping point for the farm produce of a fertile agricultural district, and was constructed by the government of Prince Edward Island, its control being assumed by that of the Dominion in 1884. It has a length of 407 feet, the outer 100 feet being 28 feet wide, while the approach is 21 feet wide, entirely constructed of close-face square timber, full ballasted, fendered, etc. During the present season, it was necessary to about entirely reconstruct the walls of approach, which had become decayed through age. Work was completed November 3, at a cost of $1,500.08.

SOURIS.

Souris is situated on the south-eastern coast of Prince Edward Island, about 16 miles southwest of East Point, and is most important as a harbour of refuge and place of shipment, for both of which it has been rendered available by the breakwater built and maintained by the Dominion Government, as described in departmental report for 1908-9.

To enlarge the harbour area, an extension was undertaken under contract, October 18, 1912 for the sum of $143,917, and about completed during season of 1914, as fully set forth in departmental report for 1914-15.

Work was commenced May 24, 1915, on the repair of the breach made in the wall below the sloping face of outer block by storms of the previous fall; an extension was then made to the contract to provide for the further strengthening of this portion of the work by reinforcing with 12 by 12 creosoted sheathing. Work on this was commenced June 5 and when about completed, the whole was again displaced by storms on July 9, since when no further work has been attempted. The cost of the sheathing was $2,365.41.

In addition to the above, the contractors, placed during the month of July, under agreement, on harbour side of the new 400-foot extension of the breakwater, eight creosoted mooring posts, 12 feet long and 15 inches diameter, ten ring bolts and two ladders, at a cost of $194.50.

SUMMERSIDE.

Summerside harbour is on the southern coast of the island. The town of Summerside is next in population to Charlottetown, having some 3,000 inhabitants; it is, as well, one of the principal stations on the line of the Prince Edward Island Railway, distant from Charlottetown 49 miles and from Tignish, the western terminus 68 miles.

For improvement of the channel, as to depth and direction, dredging has been done at different times by the department, while, for protection from southwest winds, a breakwater was completed September 7, 1909, extending from Indian Head to the lighthouse at harbour entrance, a distance of 3,220 feet. The work consists of a rubble mound four feet wide on top and five feet above H.W.S.T., having slope on seaward side, of 2 to 1, and, on the inner side 1½ to 1. The length of the stonework is 3,200 feet, with an outer block 112 feet long by 20 feet wide on top, constructed of close-face timber-work fully ballasted and having slope of 1 to 1 on its seaward side and ends.

During the past season, November 15 to 23, the sum of $41.34 was expended in effecting small repairs to sheathing on the sloping face of the outer block.

TIGNISH.

Tignish is situated on the northeast coast of the island, about 8 miles south of North cape, being at the mouth of the Tignish river, here entering the Gulf of St. Lawrence. Works for the formation of a boat harbour were commenced in 1868, by the Provincial Government, and are now as described in departmental report for 1914-15.

During the present season, a 325-foot length of the south breakwater, inward of the outer block, has been raised and repaired for a height of two to four feet, with 12 by 12 timbers, fenders, etc., being put in, and the whole top-covering renewed with 3-inch plank. Small repairs were also effected to portions of the beach protection and harbour works generally where found required. Work was started August 19, 1915, and completed January 4, 1916, at a cost of $2,484.79.

VERNON RIVER NORTH.

Vernon River North is situated on the north side of the Vernon river at the head of navigation, and immediately below the public road bridge, here crossing the river.

The wharf was built by the department in 1909, having an approach 170 feet by 24 feet and a pier-head 125 by 40 feet, its construction being as fully described in departmental report for 1909-10. As only a 10-foot portion of the pier-head along the channel side was planked, the balance, 30 feet in width, being clay, it was desired by the shippers that the whole be planked over. Such was done during present season, work being commenced August 2 and satisfactorily completed September 23, at a cost of $745.69.

WEST POINT.

West Point is situated on the western end of the Northumberland straits coast of the island, and is important to the district both as point of shipment for farm produce, landing of supplies, etc., and also as shipping station. The population of the district numbers about 600. The work was originally built by the Provincial Government, its control being assumed by the Dominion Government in 1883-84, and since reconstructed and extended till now it has a length of 720 feet by 30 feet in width, constructed of close-face square timber crib-work, full ballasted, etc.

During the present season, the greater part of the covering was replaced, fenders being put in around the outer portion of the wharf. Work was started July 5 and completed September 15, at a cost of $998.33.

NEW BRUNSWICK.

ALBERT.

(This work is described in the annual report for 1915.)

Albert, Albert county, a village of 450 inhabitants, is situated on the Shepody, a tidal river with a strong current, practically dry at low water, discharging into the Bay of Fundy.

During 1915-16, the bed for vessels was cleared of the mud, which accumulated there, and 13 loads of gravel were placed on the approach to the wharf. Work was in progress between the 20th and 29th of May, 1915.

Expenditure for the fiscal year is $83.30.

ANDERSON'S HOLLOW.

(This work is described in the annual report for 1915.)

Anderson's Hollow, Albert county, is a cove of Salisbury bay on the north-west side of Chignecto channel in the Bay of Fundy.

On 2nd and 3rd July, 1915, repairs were made to the approach to the breakwater-wharf, which was damaged by heavy rains. On the 7th of January, 1916, some covering which had been removed by a heavy storm, was replaced.

Expenditure for the fiscal year is $19.80.

BATHURST.

Bathurst, the shire-town of Gloucester county, is situated on the south shore of the Baie des Chaleurs.

Bathurst harbour is about 2½ miles long, by 2 miles wide, and is shallow and largely dry at low water except in narrow channels. A wide shoal outside the entrance also seriously interferes with navigation.

On the 7th July, 1913, a contract was entered into with The Northern Dredging and Construction Co., Ltd., for dredging in the Main or Nepisiquit channel of Bathurst harbour in order to allow vessels, which previously have been obliged to lie outside, to come to the wharfs for loads of lumber, also for the benefit of shipping in connection with a large pulp mill under construction, a proposed iron ore shipping dock, etc.

The width of the cut is generally 200 feet, increased to about 300 at the curves, and the depth called for under the contract, 17 feet at low water ordinary spring tides. The final depth under the general scheme of improvement is 25 feet.

Spring tides rise 7 feet, neaps, 2.5.

The original contract, for 400,000 cubic yards, at 25 cents per cubic yard, place measurement, was completed on 22nd August, 1914, when work was begun under a second contract with the same firm, entered into on the 19th May, 1914. The total quantity to be removed under the second contract was 600,000 cubic yards, place measurement, of which 199,828 cubic yards were removed in 1914-15 and 361,575 in 1915-16, the price being 30 cents per cubic yard.

Work was in progress during 1915-16, with the dredge *Hayward,* between 15th May and 16th August and between 4th October and 11th December; with the dredge *Invader* between 22nd May and 16th August and between 2nd October and 11th December, and with the dredge *Gray Loggie* between 24th June and 16th August and between 23rd October and 16th November.

The dredging in 1913, covered about ¾ of a mile of channel immediately inside the entrance and taking in the Ripple and Ballast bars. The next section, about 1,700 feet long, where there are depths of about 12 feet or over on the centre line has not been dredged. Above this, in 1914, a section 4,400 feet long was dredged, covering the Seal bar and reaching to the Forks. Extending above the Forks, a narrow cut was made, 1,900 feet long. A small area, 400 by 50 feet, was also dredged on the Nepisiquit shoal, one mile above the Forks.

The dredging, during 1915-16, consisted of making a cut from the Forks to within 100 feet of the Nepisiquit highway bridge, about 8,640 feet long, of which 1,850 feet on Range 5 is completed to the full width of 200 feet, widened to 300 at the turns at each end; 4,050 feet is 100 to 175 feet wide, and the balance 2,740 feet, is 60 feet wide. The correct depth of 17 feet at low water was reached. The limiting depth on the Main or Nepisiquit channel inside the harbour is now about 14 feet at low water ordinary spring tides.

In addition, a small area, about 200 by 100 feet, was dredged to 15 or 16 feet at low water at the Ripple bar, and the channel in front of the Gloucester Lumber and Trading Company's wharf, a branch of the Nepisiquit channel, joining the latter about one mile above the Forks, was dredged for a length of 450 feet and width of 60, providing a berth 300 feet long and an approach to the wharf, with 17 feet at low water.

The Government dredges *No. 2, St. Lawrence,* and *No. 3, Restigouche,* were also employed at Bathurst during 1915-16, *No. 2* working on the outer bar between the 16th and 25th August and inside the harbour on the branch channel to the public wharf, which includes the Tête-à-Gouche bar and berths at the Bathurst Lumber Company's wharf, between 8th June and 12th August, and between 28th and 30th August; *No. 3* working on the outer bar between 24th September and 27th October and on the Ripple bar, just inside the entrance, between 1st and 21st September.

The quantities removed were: on the outer bar, 23,800 cubic yards, the Ripple bar, 15,332 cubic yards, the Tête-à-Gauche bar, 23,800 cubic yards, and the berth at the Bathurst Lumber Company's wharf, 13,200 cubic yards, all barge measurement.

On the outer bar the cut previously dredged was widened 100 feet, or to about 200 feet, on the inner 1,200 feet. There remains a section, 2,000 feet long, to be widened 100 feet, and considerable dredging is required over about 1¼ miles to bring the cut to the 17-foot depth and full width of 200 feet. The cut so far as dredged appears generally to have maintained itself satisfactorily during the past year. The limiting depth is now about 13 feet at low water ordinary spring tides.

On the Ripple bar, a length of about 1,000 feet was dredged to about 15 to 17 feet at low water, chiefly along the southern side of the channel, to remove a bar with a least depth of about 12 feet, formed since 1913.

On the Tête-à-Gouche bar, the dredging covered a length of about 2,000 feet, giving depths of 12 to 13 feet in a channel 75 to 100 feet wide. In front of the Bathurst Lumber Company's wharfs, a strip 900 feet long and about 75 wide was dredged to depths of 14 to 16 feet. The limiting depth in the branch channel is now about 12 feet at low water ordinary spring tides.

The total material removed during 1915-16, was 361,575 cubic yards, place measurement, under contract, and 76,132 cubic yards, barge measurement, by the government dredges.

The cost of the seasons work has been $120,979.87, in addition to the expense in connection with the government dredges.

BAY DU VIN.

(This work is described in the annual report for 1915).

Bay du Vin lies on the south side of the inner Miramichi bay 20 miles east of Chatham.

Between the 2nd and 4th September, 1915, about 2,300 feet B.M. of 3-inch plank was used to replace the broken and decayed planks in the covering of the pier-head and outer blocks.

The expenditure for the fiscal year 1915-16 was $41.44.

BEAVER HARBOUR.

(This work is described in the annual report for 1915).

Beaver Harbour, Charlotte county, situated 35 miles west of St. John in a direct line, and 7 miles from Pennfield station, on the New Brunswick Southern Railway, is used by coasting vessels as a temporary anchorage, and is besides a fishing station.

During 1915-16, the whole of the top of the work, having an area of 10,000 square feet, was covered with 3-inch plank; nine fender piles, 28 feet long, were placed on the work; a new rail was placed around the top of the stairs, and the whole work, with the exception of 375 feet of cap, was painted with carbolineum avenarius. The work was begun on 4th October and was completed on 15th November, 1915.

Expenditure for the fiscal year is $1,009.47.

BLACK RIVER.

Black river is a small stream entering Buctouche harbour one mile north of Buctouche.

A small public wharf was built here immediately below the highway bridge in 1911 and 1912.

During the fiscal year ending 31st March, 1916, the pier-head of the wharf, which is 50·8 by 52·5 feet, was sheathed with 3-inch plank, two walings 6 by 6 being first bolted along the outer face to even up the work. Four ladders and eight ring bolts were placed and the sheathing, cap, etc., were painted with carbolineum.

Work was in progress between the 3rd and 10th, 16th and 18th, and 22nd and 26th of September, on the 1st and 2nd and from the 11th to the 16th October.

The expenditure for the fiscal year was $284.97.

BLACK'S HARBOUR.

Black's Harbour, Charlotte county, situated on an arm of L'Etang harbour, is 12 miles from St. George, the nearest railway point, and 6 miles from the departmental wharf at Beaver Harbour. Black's Harbour has a population of about 400, occupied in packing sea-goods, fishing and farming. The steamer *Connors Bros.*, makes a trip here weekly, and coasting vessels make 150 trips per year to and from this place. The wharf at Black's Harbour was built by the Provincial Government in 1899, and consists of pile work 106 feet long and 24 feet wide. This wharf is in very bad condition.

On 24th January, 1916, an authorization was received to expend $500, in making temporary repairs to the stringers, covering, cap and bracing. Repairs were not made during the fiscal year 1915-16; but some spikes, etc., were purchased at a cost of $88.95.

BUCTOUCHE.

The town of Buctouche lies about 18 miles south of Richibucto, by road, and 22 miles north of Shediac.

The public wharf, 300 feet long, was constructed in 1884 to 1886.

Between the 30th August and 11th September and the 21st and 25th September, 1915, six mooring posts were renewed and the covering and stringers of the approaches at the lower end were repaired in a length of 25 feet, 18 feet 8 inches wide, 3-inch plank being used.

The expenditure for the fiscal year was $124.72.

BUCTOUCHE BEACH.

Buctouche beach, 6 to 7 miles long, separates Buctouche harbour from the Northumberland strait. The harbour entrance is at the southern end of the beach. At the northern end it is proposed to cut a channel through the beach to give a short passage from the harbour to the fishing grounds and to provide a shelter for the boats on the outer shore. Breakwaters and breastworks have been constructed on each side of the proposed canal which will be about 950 feet long, at high water level, and about 40 feet wide.

During the fiscal year ending 31st March, 1916, the whole of the south breakwater and breastworks, 1,020 feet long, was sheet-piled with 3-inch plank, about 14 feet long, first replacing 550 lineal feet of 3-inch walings and 150 feet of 6 by 6 walings which were decayed. An extension to the north breastworks 40 feet long which was damaged by the ice last winter was rebuilt and the spaces behind the breastworks, 575 feet long on the south side and 300 feet on the north side, were filled with sea-weed, with a small amount of ballast placed over it, to prevent the sand coming through. A temporary breastwork, 157 feet long, formed of main piles braced from behind and tied together with walings and faced with 3-inch sheet-piling was built to repair a break in the north breastworks, caused by the storm of September 29, 1915. 33 pieces of 3-inch plank which had been broken, near the inner end of the north breakwater, were pulled out and the gap repaired by placing two walings, and sheet-piling the breastworks for a length of 43 feet.

Work was in progress between 16th June and 26th August, between 7th September and 23rd October, and between 11th and 23rd November.

The expenditure for the fiscal year was $2,535.57.

Dredging.

The dredging at Buctouche Beach, Kent county, is intended to open up a proposed canal, between breakwaters and breastworks already constructed, in order to provide a harbour of refuge for fishing boats and a short passage to the fishing grounds, from the upper end of Buctouche harbour.

It covers a total length of 2,800 feet, of which 1,200 is in the canal proper and 1,600 across the shoal, in Buctouche bay, as the upper end of Buctouche harbour is called.

Dredging was begun in 1911, and in 1913 the canal was cut through and, later, partly filled with sand by a storm.

During 1914, the dredging covered the whole length of the cut in the bay and the inner 600 feet of the canal, the width being 40 to 50 feet, and depth 3½ feet, at low water ordinary spring tides.

The work was continued in 1915, between 13th July and 24th November under a contract with Mr. Felix Michaud, with the dredge *Excavator*, when the inner 600 feet was gone over and the remaining 600 dredged about 55 feet wide to a depth of about 3½ feet at low water.

A heavy storm at the end of September destroyed a considerable section of the breastworks and washed into the cut a large quantity of sand, which was in part removed, but, later, northeast storms carried in additional sand, and at the close of the season the depth had been reduced to about 2 to 3 feet above low water.

The total dredging for 1915-16 amounted to 15,115·4 cubic yards, including 336·5 cubic yards which were first cast over, and the cost, including $299.26 for inspection, was $5,700.43.

BUCTOUCHE HARBOUR.

In the 5½ miles between the town of Buctouche, Kent county, and the harbour entrance on the Northumberland strait, three shoals occur; the most serious of which is at the entrance where a wide ledge of rock and a sand bar limited the depth to about 10 feet at low water ordinary spring tides.

In 1913, the Government rock-breaker *Lobnitz, No. 3,* began work on this ledge, breaking the rock in this and the following year to a depth of 3 to 4 feet in an area 1,085 feet long by 122 wide.

Between 4th June and 20th July, 1915, work was continued and the last section, about 600 feet long by 122 wide, was gone over.

The Government dredge *P. W. D., No. 13,* was in operation between 15th June and 15th November, 1915, removing the rock and sand, over an area 440 by 50 feet and beyond this, an area 1,520 by 115 feet, to a depth of 14 to 15 feet at low water ordinary spring tides, which, with the work of the previous year, completed the rock section of the cut. During the latter part of the season, and particularly when it was too rough to dredge at the harbour entrance, *P. W. D., No. 13,* worked on the middle shoal, about 2¾ miles below the town, making two cuts, 2,300 feet long at the inner and 550 at the outer end and 40 feet wide, with depths of 14 to 16 feet at low water ordinary spring tides. An undredged section, 1,200 feet long, remains in the central part of the shoal.

On 15th, 16th and 19th October also, a bank was removed from the faces of the Irving wharfs at Buctouche, about 15 to 20 feet wide, to give depths at the berths of about 14 to 15 feet at low water ordinary spring tides. The length dredged at the Freezer wharf was about 150 feet and at the Sawmill wharf about·280 feet.

The material removed, barge measurement, according to the dredge captain's returns amounted to 33,183 cubic yards at the outer or rock shoal; 24,024 cubic yards at the middle shoal, where place measurement quantities are 23,555 cubic yards, and 2,297 cubic yards at the Irving wharf.

Over the rock shoal the total materials removed in the two seasons amounted to 43,505 cubic yards, barge measurement, against 33,372·6 cubic yards, place measurement.

BURNT CHURCH.

Burnt Church, Northumberland county, is a farming, fishing and lumbering settlement on the north shore of Miramichi bay, 22 miles northeast of Chatham. The Miramichi Steam Navigation Company's boat calls twice daily during the season, and the place is much frequented as a summer resort.

A public wharf, 1,180 feet long, was constructed here in 1900 and 1901.

During the fiscal year ending the 31st March, 1916, the whole of the plank covering on the approach of the wharf was renewed with 3-inch plank, except on the shore block, 241 feet long, where the decayed planks were replaced with earth and gravel surfacing, 1 to 1½ feet deep. Several crib timbers and 280, 10 by 12, stringers and all the cap timbers on the blocks and spans were renewed. The pier-head was sheet-piled with 6-inch creosoted timber on the four faces, block 23, 20 by 40 feet, contiguous with the

pier-head, on both sides and the inner end, block 22, 20 by 20 feet, on both sides and ends and block 21, 20 by 20 feet, on two sides and half of the outer end. The approach is 1,139 feet long and 20 feet wide and the pier-head 40 by 60 feet.

Work was in progress between 1st July and 28th September, and 15th October and 24th November.

The expenditure for the fiscal year was $4,770.38.

CAMPBELLTON.

Ferry Wharf.

Campbellton is situated on the southern shore of the Restigouche river 16 miles above Dalhousie, and 6 mile below the head of the tide. It is a divisional point on the Intercolonial Railway and the terminus of the International Railway. It is an important deal-shipping port.

Between the 19th May and the 28th June, 1915, the western side of the ferry slip was built up with cribwork 2 to 6 tiers high and 5 feet wide, the face 123·8 feet long, was sheathed with 4-inch plank, 3 to 20 feet long, and three posts about 8 inches in diameter were placed around the outer corner.

On the eastern side the face for 102·7 feet was sheathed with 4-inch plank, 3 to 20 feet long, and 18 posts about 8 inches in diameter were placed along the outer 14 feet of this face and 13 posts around the outer corner. The top longitudinal of the cribwork and the upper part of the sheathing were painted with two coats of carbolineum.

The work was required to complete the repair of damage caused by the Campbellton fire of 1910.

The expenditure for fiscal year was $451.92. Half the cost of the materials used was borne by the Shives Lumber Company, who own the wharves forming the sides of the ferry slip.

Deep Water Wharfs.

The Restigouche is a rapid river down to the tidal limits, 6 miles above Campbellton, and the deposit of mud and silt in the river about Campbellton, where the river current is checked by the tide, is very heavy.

Dredging is required each year to maintain the depths at the wharfs and in the river channel.

At the deep water wharfs, where berths with 22 feet at low water ordinary spring tides are required to enable lumber steamers to lie afloat and take full loads, the departmental dredge, *St. Lawrence* or *No. 2*, was at work between 3rd and 22nd September, and 3rd to 5th November, in deepening the berths along the inside face.

Beginning at the outer end, 22 feet at low water was reached, in a length of 325 feet; in the next 170 feet a depth of 20 feet was obtained. The width of the dredged area is 40 to 80 feet.

The material removed amounted to 10,800 cubic yards, barge measurement.

Market Wharf.

Between 23rd and 30th September, the Government dredge *St. Lawrence* or *No. 2*, was at work in front of the Market wharf, a public wharf lying about 200 feet above the deep-water wharfs.

A berth or basin was dredged about 200 feet long and 50 to 100 wide with depths of 15 to 17 feet at low water ordinary spring tides, where there were original depths of about 9 to 12 feet.

The material removed, consisting of mud and gravel, amounted to 5,600 cubic yards, barge measurement.

CAPE BALD.

Cape Bald is a farming and fishing district on the south shore of the Northumberland strait about 14 miles east of Shediac.

The construction of a breakwater was in progress in 1909 and 1910, under contract with Mr. E. A. Walberg. It consists of an approach 646 feet long and a pier-head 100·4 feet long on the outer face, built of cribwork with reinforced concrete faces.

During the fiscal year ending 31st March, 1916, ten caissons, 11 feet by 6 feet, by 4 to 5½ feet wide, and twenty-five caissons, 11 feet by 3½ feet, by 3 to 4½ feet, were built of reinforced concrete.

The larger caissons, together with four built last year, were sunk along the outer 55 feet of the outer face of the approach and the outer face of the pier-head, and the smaller caissons were laid over large caissons placed last year along the approach, and over seven of the nine placed this year outside the pier-head.

The large caissons and the narrow space between them and the original face of the work were filled with ballast and the upper small caissons were filled with ballast and concrete and capped with concrete.

430 bags of cement were used in making the caissons and 375 in filling and capping the small caissons. 282 cubic yards of ballast were used in filling the caissons and the spaces between them and the breakwater, and 311 cubic yards in filling four vacancies in the breakwater, where the original ballast had been washed out. A diving outfit and crew were employed for 25 days in levelling the bottom for and placing the caissons.

The concrete curb on the inner face of the breakwater was renewed for a length of about 80 feet, 1 foot wide by 1 foot deep.

A storm on 27th September carried away the plank covering of about 250 feet of the approach and of about ⅓ of the pier-head, washed out a quantity of ballast and displaced several of the caissons. At the close of the season, the planks were gathered up and relaid on the breakwater.

Work was in progres between 29th May and 13th October.

The expenditure for the fiscal year was $3,605.69.

CARAQUET.

Caraquet is an important fishing district and village 42 miles east of Bathurst.

During the fiscal year 1915-16, the pier-head, constructed by the Federal Department of Public Works in 1883-84, at the end of the Provincial Government wharf, the Young wharf so-called, was under repair. The outer face, 100 feet long, was close-piled with round piles, 33 feet long, and raised about 1½ feet with extra face timbers on account of settlement. Six fenders were placed at the corners. The faces of the ends were levelled up with extra timbers and the upper timber on the south face was renewed. Eleven new cross-ties and six mooring posts were placed.

The eastern end and inner side were sheathed with 4-inch deals, driven 3 feet into the mud, and the sheathing on the western end was repaired.

The old and worn plank covering of the block was removed and packed as a ballast floor in the work over which was placed about 143 cubic yards of ballast surfaced with 4 inches of gravel.

Work was in progress between 21st October and 23rd December, on 28th December, the 10th to 13th and 27th and 28th January and on 10th and 11th March.

The expenditure for the fiscal year was $1,314.55.

CHIMPAN.

Chimpan, Queens county, is at the head of navigation on the Salmon river. The turning basin in front of the wharf and the channel, for some distance down

stream, had became silted up. The dredging was for the purpose of restoring this part of the river to a depth of 9 feet below low water.

The basin dredged was, roughly, 700 feet long by 160 wide. The channel dredged down stream from the basin was 1,200 feet long by 75 wide. The area dredged over was about 205,000 square feet.

The material removed consisted of silt, sand, sawdust and edgings, also sunken drift wood.

9,933·8 cubic yards, scow measurement, were removed.

The contract rate of payment was 27½ cents per cubic yard, scow measurement. The total amount due the contractors was $2,731.79.

The work has done by the dredge *New Brunswick, No. 1*, of the New Brunswick Construction Co.

Dredging commenced on June 24, and was completed on July 8, 1915.

In 1912, the New Brunswick Construction Co. removed 12,399·5 cubic yards, scow measurement, from this place, the dredging at that time being confined to the basin in front of the wharfs. The dredging was to a depth of 9 feet below low water. It would, therefore, seem that in three or four years, dredging will be again needed at this place.

CHOCKFISH.

A farming and fishing settlement on the Northumberland strait, about midway between Richibucto and Buctouche.

The works consist of breakwaters, at each side of the present river mouth, and breastworks and a dam to close the original winding and unstable channel. Through their construction the depth of water has increased and a permanent entrance has been provided to a safe and convenient harbour.

Between 1st September and 30th November, 1915, 230 feet of the inner face of the north breakwater and 150 feet of the inner face of the south breakwater were sheet-piled with 4-inch creosoted plank.

The expenditure for the fiscal year was $691.25.

CHOCOLATE COVE.

Chocolate Cove, Charlotte county, situated at the south-east of Deer island, is distant 2 miles from Leonardville and 2½ miles from Cumming's Cove, where there are departmental wharfs. The population, about 125, are all dependant upon fishing. In 1914, the department constructed an extension to the Provincial Government wharf, consisting of a pile approach 310 feet long, together with a cribwork pier-head, 40 by 60 feet.

During 1915-16, the Provincial Government wharf was transferred to the Dominion Government. The old approach to the wharf was removed and new pile-work, 161 feet long and 22 feet wide, was constructed. This approach forms a connection between the new wharf and the shore.

The work was commenced on 17th May and was completed September, 1915; being in progress during part of the months of May, July, August and September.

Expenditure for the fiscal year is $1,648.36.

COCAGNE.

Cocagne is a fishing and farming village and settlement on the Northumberland strait, about midway between Buctouche and Shediac.

During the fiscal year 1915-16, two davits 18 feet high, of 3-inch steel, were placed on the old departmental wharf, constructed in 1881 to 1883, at the Cocagne highway bridge.

The work was done on July 11 and 26 and on 3rd August.

The expenditure for the fiscal year was $81.01.

Church Wharf.

In February and March, 1915, a small wharf was constructed at the Cocagne church, about one mile north of the village proper, a point convenient to the fishing grounds and used as a landing place by a large number of boats.

Between 1st and 4th September and on 22nd and 24th November, 1915, a slip was cut in the pier-head and finished with 6 steps and plank sides, and two davits, 18 feet long, of 3-inch steel, were placed on the wharf.

The expenditure for the fiscal year was $91.45.

COCAGNE BAR.

Cocagne Bar is a fishing settlement at the northern end of Cocagne Harbour, Kent county, 5 to 6 miles north of Cocagne village and 10 miles southeast of Buctouche.

Boats from the settlement were obliged to cross wide flats, nearly dry at low water, lying between a basin near the shore and the deep water of the Northumberland strait.

Some years ago, the people made, at their own expense by hand labour, a narrow cut which is still used.

Between 14th October and 19th November, 1915, dredging was in progress, by day labour with a small orange peel dredge belonging to the local agricultural society, when a cut about 1,700 feet long and 20 to 30 wide was made across the bar with depths of 2½ to 3 feet at low water ordinary spring tides.

The material removed amounted to 3,130 cubic yards, barge measurement, and the expenditure was $1,153.10, or 36·8 cents per cubic yard.

DALHOUSIE.

Dalhousie lies at the head of the Baie des Chaleurs and at the mouth of the Restigouche river, 16 miles below Campbellton. It has a population of 1,650 and is an important lumber shipping port.

During the fiscal year 1915-16, the old decayed covering was removed from the block, connecting the deep-water wharf with the original ballast wharf, which was levelled up by placing two extra tiers of round timber along the outer face, in a length of about 100 feet, and extra stringers inside in a width of 25 to 40 feet; new 4-inch covering was laid over an area 245 feet long and 24 to about 78 feet wide; a new 10 by 10 cap-timber was placed along the outer face for a length of 225 feet; five piles on the outside face which had been destroyed were replaced; the cap, mooring-posts and tops of stringers were treated with carbolineum, the warehouse was painted, the outer side at the upper end of the deep-water wharf, where the ice was cutting the face timbers, was sheathed with 6-inch birch-plank for a length of 30 feet, and small repairs were made generally.

Work was in progress between 7th May and 19th June, and between 27th July and 2nd September.

The expenditure for the fiscal year was $1,809.44.

DIPPER HARBOUR.

(This work is described in the annual report for 1914.)

Dipper Harbour, St. John county, is a fishing station on the Bay of Fundy, 20 miles west of St. John.

During 1915-16, a portion of the fenders was renewed; the face-timbers were rebolted; and 7,868 feet B.M. of new covering were laid. Work was in progress during the month of July, 1915.

Expenditure for the fiscal year is $403.95.

DORCHESTER.

(This work is described in the annual report for 1915.)

Dorchester is the shire town of Westmoreland county and a station on the Intercolonial Railway, 27 miles south-east of Moncton.

Work on the reconstruction and enlargement of the old railway wharf was resumed on 19th April, 1915, and the contract was completed on 16th September.

The old face of the wharf was removed, for a width of 10 feet and depth of about 19 feet, and a new face was constructed, 16 feet wide at bottom and 24·5 feet wide at top, where it steps over the lower section of the old work, and is 32½ feet high. The total length is 201·7 feet. In front of the wharf, a bed for vessels, 246 feet long by 50 feet wide, was formed by excavating and levelling the mud at an elevation 29 feet below high water, with a cribwork retaining wall along the outer side.

Between 19th and 30th June and on 13 days in July, 1915, work was in progress, by day labour, in removing the accumulation of mud from the bed in front of the departmental wharf, in a length of 190 feet, 18 to 20 feet wide and about 3 feet deep; excavating a bed for scows inside this wharf, 70 feet long by 15 feet wide and 3 feet deep, and forming a bed for scows at the upper end of the old railway wharf, about 90 feet long by 22 feet wide, by excavating the mud about 4 to 1 feet deep and facing the outer side with cribwork. A strip of 2-inch plank, 82 by 10 feet, was laid over the departmental wharf, where the old covering was becoming decayed and broken.

The expenditure for the fiscal year 1915-16, was $13,588.03, being $12,880.50 on the contract, $407 for inspection, and $300.53 for day labour.

DOUGLAS HARBOUR.

Douglas harbour, Queens county, is on the north shore of Grand lake and is the centre of a considerable farming district.

Dredging was done to form a basin in front of the wharf, approximately 272 feet wide and 340 long. This work was begun in 1914, and finished during the present season. The work this year consisted of dredging a strip, about 100 feet wide by 400 long, on the eastern side of the basin. The area dredged over this year was approximately 40,000 square feet.

The material removed, consisted of silt and sand.

5344·7 cubic yards place measure were removed (56·7 being outside the ranges). The equivalent scow measurement was 5,688·7. The expansion factor from place to scow was 6 per cent.

The contract rate of payment was 35 cents per yard. The contractors were entitled to receive payment for 5,288 yards, which amounts to $1,850.80.

The work was done by the dredge *Tantawanta* of the St. John River Dredging and Construction Co.

Dredging commenced June 3 and was completed on June 10, 1915.

It is expected that little or no filling in will occur at this place.

DOUGLASTOWN.

Douglastown, Northumberland county, is a village on the north side of the Miramichi river, 1 to 2 miles above Chatham, and 3 to 4 miles below Newcastle.

Between 13th July and 26th August, 1915, dredging was in progress, under agreement with Mr. F. A. Fowlie, in the deep water berth at the Miramichi Lumber Company's wharf, with the Dredge *Fowlie*.

The dredging covered an area about 600 feet long by about 50 to 70 wide, giving a depth of 22 feet at low water ordinary spring tides.

The material removed amounted to 8,501 cubic yards, barge measurement.

The expenditure was $3,091.35, including $116 for inspection.

DURHAM.

The public wharf at Durham was constructed in 1905 and 1906. It lies on the Baie des Chaleurs near the eastern end of Restigouche county.

Towards the close of the fiscal year 1914-15, the sides of the wharf were raised about 25 inches with two tiers of square timber laid over the old cap. During the fiscal year ending the 31st March, 1916, the work of raising the level of the wharf, which formerly was piled with drift-wood and seaweed during storms, was continued On the inner 350 feet the old covering, which was here worn and decayed, was removed and the work was filled with about 2 to 3 feet of stone and surfaced with gravel, raising the level of the top about 20 to 25 inches. Beyond this section, about 20 inches of stone and gravel was placed over the old covering and the work was finished at the outer end of the approach with a slope of plank, 11 feet wide and 6½ feet long, descending to the level of the pier-head. 200 new 10 by 10 by 12 foot fenders were placed along the sides. On the 27th September, a storm disturbed a section of the gravel covering, which was resurfaced with 44½ cubic yards of stone and additional gravel.

Work was in progress between 29th May and 15th September, and between 26th October and 3rd November.

The expenditure for the fiscal year was $2,028.99.

DYKEMAN'S SHOAL.

Dykeman's shoal, Queens county, is situated in the St. John river, between Gerow's and Hampstead wharfs, about 33 miles from St. John and 51 miles from Fredericton.

Dredging was done for the purpose of improving the entrance to Hampstead wharf.

A triangular area, having a base of 64 feet and a height of 123, was dredged to 11 feet below low water. The total area dredged was about 394,000 square feet. During the season of 1914, a channel, 1,715 feet long by 150 wide, was dredged through these shoals to a depth of 11 feet below low water.

The material removed was sand and fine silt. 44,238 cubic yards place measure, were removed according to the report of the dredge captain. The after-dredging survey, which was not complete, shows 33,045 cubic yards. The work was done by departmental dredge *No. 12*, which began on June 4 and finished the work on August 25, 1915.

Silting-up will probably occur but is not expected to do so rapidly. There is no record of previous surveying or dredging at this place, therefore, nothing definite on which to base an estimate of the life of the improvement.

FAIRHAVEN.

(This work is described in the annual report for 1915.)

Fairhaven, Deer island, Charlotte county, is 7 miles from St. Andrews, and is a sheltered fishing settlement and a port of landing for the mails.

During 1915-16, the Provincial Government wharf was transferred to the Dominion Government. The pontoon of the floating slip, which was sunk in a storm, was pumped out and repaired, on 14th February, 1916.

Expenditure for the fiscal year is $10.40.

FRENCH LAKE.

French lake, Sunbury county, is one of a chain of lakes and connecting waterways draining into Grand lake from the north. The eastern shore is a good fruit region, and a large amount of lumber is shipped out of this district annually.

Dredging was done for the purpose of forming a channel 75 feet wide and 7 feet deep, at low water, through the lower part of the lake, to give access to the St. John river, *via* Maquapit lake. The total length of channel dredged was 2,910 feet, the area dredged over being approximately 94,000 square feet.

The material removed consisted of sand and mud.

13,579·9 cubic yards, place measure, were removed, of which 11,119·9 yards were within the authorized lines and grades. The corresponding scow measure was 15,738·2 yards. The expansion factor, therefore was 16 per cent.

The contract rate of payment was 20 cents per yard.

The work was done by the dredge *Tantawanta,* for the New Brunswick Construction Co.

Dredging was commenced May 20 and was finished on October 4, 1915.

This is the first dredging done at this place, and there is very little information on which to base an estimate of its probable permanence. It would seem, however, that this channel should not need re-dredging for a long time.

GRAND ANSE.

Grand Anse, a station on the Caraquet railway, and a fishing and farming settlement of about 800 inhabitants, is situated on the southern shore of the Baie des Chaleurs, 28 miles northeast of Bathurst. The construction of a breakwater, for the protection of the fishing boats, was begun here in 1876.

The pier-head of the breakwater was badly damaged by a heavy storm on the 20th November, 1914. The covering and stringers and part of the upper tier of round timbers were carried away for about 214 feet, and the whole of the inside face of the westerly 106 feet down to low water level. On the easterly 112 feet the greater part of the outer sloping face and upper face timbers were carried away.

Repairs were in progress between 7th July and 7th August and between 17th August and 30th September, 1915, when the faces were rebuilt together with 3 to 4 tiers of inner timbers, the work was ballasted, new stringers were laid ready for the covering, and hardwood sheathing was laid on about 50 feet of the outer sloping face.

The expenditure for the fiscal year was $2,000.

GRAND LAKE, QUEEN'S COUNTY

Across the outlet of the lake a shoal has been formed by deposits from the inflowing tide. Dredging was done for the purpose of making a channel through this shoal.

The work undertaken consists of dredging, to 9 feet below low water, a channel 150 feet wide and approximately 9,400 feet long. Part of this area was already of the required depth. The area over which dredging was actually required was approximately 586,000 square feet. During the season of 1915, approximately 357,000 square feet of this area was dredged, to 9 feet below low water, and there now is a channel to that depth and about 70 feet wide at the narrowest part, all the way through the shoals. It is estimated that 18,286·5 yards, place measure, remain to be removed.

The material removed consisted of silt, sand, sawdust, etc.

70,255 cubic yards, place measure, were removed, of which 53,694·6 were within the authorized lines and grades. The corresponding scow measure was 59,097·2 yards. The expansion factor was, therefore, 16 per cent, the explanation being that during dredging a great deal of the light vegetable matter in the shoal was carried away by the strong current as soon as disturbed.

The contract rate is 14½ cents per yard, place measure, and the amount due the contractors, on work done in 1915, is $7,785.72.

The contractor is L. W. Nickerson and the work was done by the dredges *New Brunswick No. 1,* and *Tantawanta.*

Dredging began on September 6 and was suspended on November 17, 1915.

The last dredging at this place, apparently, was done in 1902, when a channel 75 feet wide was dredged to a depth of 10 feet. It would, therefore, seem that dredging will probably be needed again in 10 or 12 years.

GREAT SALMON RIVER.

Great Salmon river, St. John county, is a small tidal inlet, 8 miles east of Quaco, and 43 miles east of St. John. Shipments of lumber are made from this place. Spring tides rise 30 feet. A small harbour, dry at low water, is formed by the projection of a beach from the west side, a narrow opening remaining for an entrance. To keep open this entrance, piers, 372 and 316 feet long, respectively, have been built on both sides, by the department.

During 1915-16, five mooring posts, four of which were broken off in a heavy storm by a barge moored at the breakwater, were replaced on the western breakwater.

Expenditure for the fiscal year is $97.94.

GRIMROSS CANAL.

Grimross canal, Queens county, is on the route of the steamers plying between St. John and Fredericton, 49 miles from St. John and 35 from Fredericton.

Dredging was done here for the purpose of completing work begun in 1914. This year a strip 430 feet long by about 40 wide was dredged to 11 feet below low water. The work was begun in 1914 when the department's dredge *No. 12*, dredged the western side of the canal to 9·5 feet below low water. Owing to the hard character of the clay encountered, *No. 12* was taken off this job and the eastern side of the cut was dredged to 11 feet below low water, the work being done by contract.

The material removed was clay and rocks.

The total quantity removed in 1915 was 5,201·5 cubic yards, of this 4,946·6 were within the authorized lines and grades. The corresponding scow measure was 5,305·3 yards. The expansion factor therefore was 2 per cent.

The contract rate of payment was 21½ cents per cubic yard. The total amount due the contractor was $1,063.52.

The contractor was the New Brunswick Construction Co., and the work was done by the dredge *New Brunswick, No. 1.*

Work begun on June 9 and was completed on June 16, 1915.

It is not expected that any appreciable filling in will occur at this place.

LEONARDVILLE.

Leonardville is a fishing station on the eastern side of Deer island (part of the County of Charlotte), 3 miles from Lord's Cove and 2 miles from Charlotte Cove. Thirty sardine boats, from 8 to 12 feet in draught, are owned at Leonardville, in the neighbourhood of which there are 60 families. In 1909-10, a wharf, 303 feet in total length, consisting of a trestle approach, 143 feet long, and 24 feet wide, a pile approach 120 feet in length, and a cribwork pier-head, 60 feet by 40 feet, was built by the department. In 1913-14, a floating slip was constructed. The slip consists of a scow, 17 feet by 30 feet, and a bridge-span, 45 feet long and 6 feet wide.

In March, 1916, repairs were made to the floating slip, the pontoon having broken loose in a storm.

Expenditure for the fiscal year is $7.48.

LITTLE BLACK RIVER.

The Little Black river flows into the main Black river, about 2 miles above the mouth of the latter, on the south side of Miramichi bay and about 18 miles from Chatham.

Dredging was in progress between 26th October and 15th November with the dredge *Fowlie*, under an agreement with Mr. W. B. MacDonald, in making a cut 600 feet long and 30 wide, to extend the river channel to a wharf on the south shore, and making a turning basin about 50 feet square in front of the wharf, also in cutting off the point of a sharp turn in the channel about ½ mile below the wharf; at this point, the dredging was about 200 feet long and had an average width of 25 feet.

The depth reached was 2 feet below low water ordinary spring tides.

The work was on a place measurement basis and the material removed amounted to 2,956·1 cubic yards.

The expenditure was $936.30, including $49.37 for inspection.

LITTLE DIPPER HARBOUR.

Little Dipper Harbour, St. John county, is a fishing station 20 miles southwest of St. John, and 1½ miles distant, by water, from Chance Harbour. In 1914, the department constructed a breakwater from the mainland to Crow island, to provide protection for the fish houses and the creek. The work consists of round cribwork filled with ballast, 454 feet long and 24 feet wide on top.

During 1915-16, a roadway, 150 feet long, was built, to connect the public highway with the breakwater. The work was in progress during the month of June, 1915.

Expenditure for the fiscal year is $111.72.

LORD'S COVE.

Lords Cove, a small fishing station on Deer Island (part of the County of Charlotte), is a port of call for steamers plying between St. Stephen, St. Andrews, Eastport and other points in Passamaquoddy bay. The departmental wharf begun in 1900-01 and completed in 1903-04, is a pile-and-trestle work, 328 feet long and 21 feet wide, with a pier-head, 50 by 40 feet, standing in 29 feet at high water. The stone approach is 28 feet in length.

During 1915-16, the movable slip was re-constructed; mooring posts were renewed and an iron extension was made to the ladder at the lower landing. Work was begun 21st June, and completed 23rd July, 1915.

Expenditure for the fiscal year is $497.87.

LOWER CARAQUET.

Lower Caraquet is a fishing settlement about 7 miles east of Caraquet station. The public wharf, which is 2,602 feet long, was built in 1909 and 1910.

During the fiscal year ending 31st March, 1916, a strip of 2-inch plank 9 feet wide was laid longitudinally over the old worn covering of the approach 2,500 feet long. A sloping cribwork approach to the beach, 22 feet long by 16 feet wide, was built on the east side at the inner end of the wharf.

Work was in progress between 1st and 23rd July, and 4th and 19th August.

The expenditure for the fiscal year was $1,266.75.

LOWER ST. LOUIS.

The St. Louis river enters the Northumberland strait about 7 miles north of Richibucto.

Inside the entrance is a wide lagoon, generally shallow except in the winding river channel.

Dredging has been carried on in the last 4 years to obtain a cut 40 feet wide, with 3 feet at low water ordinary spring tides, across the flats to give a direct channel for the fishing boats from the entrance to the river proper.

During 1915, the cut was extended about 500 feet or to the 3-foot line at the inner end, and several narrow and shallow sections of the former season's work were dredged. The cut has now a total length of 5,000 feet, a width of 30 to 40 and a general depth of 2·5 feet at low water ordinary spring tides, except at one or two points where the depth is 2 feet. It ranges with the entrance lights of St. Louis gully, except the inner 1,000 feet, which is in line with the up-river channel, at an angle of 40° with the first range.

The material removed during 1915, consisting of mud, with sand at the outer end, amounted to 4,219 cubic yards, costing 23·5 cents per cubic yard.

Work was in progress between 26th July and 23rd August and between 13th September and 2nd October, with a small orange peel dredge, the "St. Louis Star", which was hired for $13.00 per day including wages of engineer and cost of gasoline, and oil.

The expenditure for the fiscal year 1915-16 was $995.05.

McCLURE'S.

McClure's, Queens county, is on the Salmon river, about two miles below Chipman. At this place, a bad shoal had been formed chiefly as the result of an ice-jam in the river. The object of the dredging was to form a channel 9 feet deep at low water and 75 feet wide through this shoal. Dredging was done over a channel length of 1,740 feet. The area dredged over was approximately 75,000 square feet.

The material removed was silt, sand and gravel.

5,156·4 cubic yards, scow measure, were removed. The contract rate of payment was 27½ cents per cubic yard, and the total amount due the contractor was $1,418.01.

The contractor was the New Brunswick Construction Co. and the work was done by the dredges *Tantawanta* and *New Brunswick, No. 1.*

Work began on June 29 and was finished on July 19, 1915.

The channel is, under ordinary conditions, likely to gradually silt up. An ice-jam in the river may cause the formation of a dangerous shoal any season. It is, therefore, not possible to be very definite in predicting the probable life of this improvement.

MAQUAPIT LAKE.

Maquapit Lake, Queens and Sunbury counties, is one of a chain of lakes and connecting waterways draining into Grand Lake from the north. It lies between French and Grand lakes.

The object of the dredging was to form a channel, 75 feet wide and 7 deep at low water, through the shoal at the upper end of the lake. This forming part of the scheme now completed to provide 7 feet navigation from French lake to the St. John river. The total length of the channel dredged was 2,755 feet. The area dredged over was approximately 208,000 square feet.

The work done this year in Maquapit and French lakes completes a project begun some years ago to form a 75 foot channel, 7 feet deep at low water, from the head of French lake to Grand lake.

The material removed was sand and clay. 46,715·6 cubic yards place measure, were removed and 44,020·7 of this was within the authorized lines and grades.

The contract rate of payment was 20 cents per yard. The contractors were therefore entitled to $8,804.14. The contractor was the New Brunswick Construction Co. and the work was done by the dredges *New Brunswick No. 1* and *Tantawanta.*

Dredging commenced on April 26 and was finished on July 14, 1915.

It is expected that this channel will not require re-dredging for a considerable number of years

MARTIN'S HEAD.

Martin's Head, St. John county, is situated at the mouth of Quiddy river, on the north shore of the Bay of Fundy, 12 miles east of Great Salmon river. About four million feet of lumber and two thousand cords of pulpwood are shipped annually from this place. During 1914-15, a breastwork was constructed by the department, for the protection of the Pejepscot Paper Company's wharf from easterly storms. All the lumber for the work was supplied free of charge by this company. The work consists of a timber groyne made of piling, sheathed for 150 feet, and of pile-bents, close-piled on the seaward side, for 275 feet.

During 1915-16, the pile breastwork was extended 260 feet, the Pejepscot Paper Company supplying the timber, as formerly. The work consists of pile-bents of 5 piles each, capped and braced, and close-piled on the seaward side. Work was in progress between 1st June and September, 1915.

Expenditure for the fiscal year is $3,223.61.

NEGUAC.

Neguac lies on the northern side of Miramichi bay about 27 miles northeast of Chatham. The public wharf, built by the department in 1892 to 1894, is the terminal point for trips of the daily river steamer.

Between 29th July and 6th August, 1915, the 40-foot span near the shore end of the wharf, which was in a dangerous condition, was repaired. A new truss was built on one side and a 40-foot cap timber was renewed. Several holes in the covering of the wharf were repaired.

The expenditure for the fiscal year was $46.81.

OAK POINT.

Oak Point, Northumberland county, is a settlement on the north side of the Miramichi river, 12 miles below Chatham. The public wharf, which is 481 feet long, was built in 1907 and 1908.

During the fiscal year 1915-16, the covering of the wharf and of the approach from the beach on the westerly side was repaired, about 2,700 feet B. M. of 4-inch lumber being used in renewing broken and decayed planks.

Work was in progress between 22nd and 24th June and on 23rd and 24th November.

The expenditure for the fiscal year was $81.61.

OROMOCTO SHOALS.

Oromocto, Sunbury county, is situated on the St. John river, about 12 miles below Fredericton. The shoals extend over about 5 miles of channel and constitute, by far, the most serious and persistent obstruction to navigation between St. John and Fredericton.

At this place the flood-plane of the river widens rapidly, and the velocity of flow, in flood-time, is very much reduced. The silt carried by the swift currents above is consequently deposited, when the current slackens, and thus the shoals are formed. During low water, the river carries little or no silt, and the currents over the shoals are stronger than they are above, with the result that erosion undoubtedly occurs at these bars during low water.

Dredging at Oromocto shoals has been carried on intermittently by the Department since as early as 1872, and the records show that about 500,000 cubic yards have been removed. Most of this, apparently, is scow measure. Due to the annual silting

up, little if any permanent improvement has resulted. At the present time, in the vicinity of 200,000 cubic yards, place measure, remains to be dredged in order to give a channel 150 feet wide dredged to 11 feet below low water.

During the past season, the main channel was dredged for a length of about 1,900 feet, by 150 in width, to a depth of 11 feet below low water. A small area outside this channel was also dredged.

The material removed consisted of fine sand and silt.

According to the reports of the dredge captain, 42,224 cubic yards, place measure, were removed, while the survey which, unfortunately, was not quite complete would make it appear that only 27,217 cubic yards were removed. This difference is probably due in part to silting up of the channel between the times of dredging and surveying also to the method of measuring the depth of face to which the dredge is working.

The work was done by departmental dredge *No. 12*. Dredging began August 8 and was suspended on November 11. From past experience at this place, it would appear that the improvement is not liable to be very permanent.

PARTRIDGE ISLAND.

Low water landing.

Partridge island is the quarantine and lighthouse station, and at present a military station, at the entrance of St. John harbour. The departmental wharf at Partridge island, consisting of two wings of close-faced cribwork, 120 and 160 feet long, respectively, with stone filling between, was built in 1910, for quarantine purposes.

In March, 1916, a quantity of timber was purchased with which to make repairs and improvements to the low water landing. This landing is used by tug boats, carrying soldiers to and from Partridge island, and was considerably damaged, partly by a boat and partly by a storm.

Expenditure for the fiscal year is $248.99.

Water pipe.

In 1905-06, a 6-inch wrought-iron pipe was placed across the west channel of St. John harbour, from Fort Dufferin to Partridge island, to supply the buildings on the island with fresh water. This pipe line was damaged and repaired several times, and later had to be abandoned. In 1913-14, a contract was let for the supply and delivery of 3,300 lineal feet of new pipe, consisting of flexible copper tubing, 4 inches in diameter. The work of laying the pipe in a dredged trench was begun in 1913, and was completed in 1914.

On 2nd September, 1915, the pipe line was torn in two by the anchor of a vessel. Both ends of the pipe were located and buoyed, and on 20th, the same month, a new piece of tubing, 36 feet long, was connected up with the pipe in the trench. Tests showed that a satisfactory job was done.

Expenditure for the fiscal year is $328.73.

PETIT ROCHER.

Petit Rocher is a fishing and a farming settlement on the Baie des Chaleurs, 12 miles north of Bathurst. A breakwater was constructed here between 1905 and 1908.

Between the 1st and 8th June, on 20th September and between 20th and 26th October, 1915, slight repairs were made to the plank covering and to the road leading from the highway to the breakwater; 50 cubic yards of large stone blocks purchased last year were placed outside the approach, and a careful examination was made with the aid of a diving apparatus of the under-water sections of the breakwater, in consequence of reports that considerable damage had occurred there. The breakwater was found to be in good condition.

The expenditure for the fiscal year was $199.22.

PORTAGE RIVER.

Portage river is a small stream entering the Northumberland strait, about 5 miles south of Point Sapin, and 6 miles north of Kouchibouguac.

During the past three seasons, work has been in progress on the construction of a dam to close the old winding and shallow entrance, and of breastworks and breakwaters, at either side of a direct opening through the sand beach which had blocked the old mouth of the Portage river

During the fiscal year ending 31st March, 1916, the dam, 180 feet long, built in 1914, was raised 2 feet with brush and stone, and an extension 240 feet long was built 12 feet wide and 6 feet high. The dam is composed of brush mattresses secured with pickets and ballast. At the southern end of the dam about 800 lineal feet of stake and brush breastworks were built to hold the sand and raise the crest of the beach.

The south breakwater was completed by driving 12 close-piles on the south side and both breakwaters were filled with brush. About 83 scow-loads of brush were used in the works.

Early in the season, the freshet opened up the new entrance between the breakwaters by carrying out the sand, leaving a firm bottom of marsh mud and peat which was not easily scoured out by the current. A cut was therefore made at low tide, by hand labour, about 400 feet long 15 feet wide and 2 feet deep, giving about 2 feet at low water. A satisfactory channel has resulted which promises to be permanent and to gradually increase in depth through scour.

The expenditure for the fiscal year was $893.27.

QUACO.

(This work is described in the annual report for 1915.)

Quaco, or St. Martins, St. John county, is situated on the Bay of Fundy coast, 34 miles east of St. John.

During 1915-16, holes were cut in the face of the work and the ballast was removed, so that access could be gained to the hole scoured out, which was at about low water level. Along the face of the work, beneath the outer timbers, a concrete wall, 72 feet long, 3 feet wide, and from 5 to 8 feet deep, was built, and the whole cavity beneath the work filled with rock-ballast. The top of the breakwater was built up to its original height with 8,136 cubic feet of square cribwork, filled with rock. A groyne, 100 feet long, was constructed on the seaward side of the work to collect sand and gravel. The results of this work were very satisfactory, the berth inside being levelled off with gravel and mud, and the creek turned so that it does not now reach the face of the work. The work was begun on 4th May, and was completed 29th October, 1915, being in progress during portions of the months of May and June, and continuously during the remainder of the time.

Expenditure for the fiscal year is $4,486.95.

RED STORE.

Red Store, Charlotte county, on the Magagnadavic, is 3 miles west of St. George, and is used as a winter landing for the town. Pulpwood is shipped from this wharf. The wharf at Red Store consists of round cribwork 83 feet long, 25 feet wide, with a pier-head 21 by 39 feet, standing in 13 feet at high water. This wharf was built by the Provincial Government many years ago, but was transferred to the Federal Government in 1915.

During 1915-16, the top of the work, with an area of 2,327 square feet, was covered with 3-inch spruce plank; six new stringers and 217 lineal feet of cap were placed on the work and the roadway to the wharf was turnpiked and repaired. The work was carried on during the month of November, 1915.

Expenditure for the fiscal year is $318.86.

RESTIGOUCHE RIVER.

Ship Channel.

Between 4th and 30th October, 1915, the government dredge *St. Lawrence,* or *No. 2,* was at work on the ship channel of the Restigouche river, on the range of the Campbellton lights, in the 3,000 feet immediately below the deep-water wharfs.

Depths of 16 to 19 feet were reached, except at one point, where there is 15 feet at low water.

The material removed, consisting of gravel, sand, etc., amounted to 18,200 cubic yards, barge measurement.

The government dredge *Restigouche,* or *No. 3,* worked on this section for one day, the 27th August, when 683 cubic yards were removed.

Dredge *No. 3* also worked between 2nd and 26th August over The Traverse on the range of the Oak-Point lights, 1¾ to 3 miles below the deep-water wharves. On this range, 29,486 cubic yards, barge measurement, of sand and gravel were removed, giving a least depth of 15½ feet at low water on the centre line.

On the next section of the ship channel, about 2,400 feet long, and the last where shoal-water was encountered, dredge *No. 3* removed 64,577 cubic yards, working between 14th June and 31st July, and giving a depth of about 18 to 20 feet at low water. The material was sand.

REXTON.

Rexton, Kent county, lies on the Richibucto river, about 6 miles above its mouth.

Dredging was required in the berth in front of the public wharf to remove a bank and enable vessels to lie close to the face, where were, formerly, depths of 7 to 14 feet at low water.

The wharf is 250 feet long, and the average width of the bank, out to the 15-foot contour, the required depth, was 30 feet.

During the latter part of 1914, about 615 cubic yards were removed. The work was carried on, by day labour, with the small orange dredge, *Farmer's Friend* belonging to the Weldford Agricultural Society.

Dredging was continued between 24th May and 28th June, 1915, when 1,364 cubic yards, barge measurement, were removed, at a cost of $634.49, or 46½ cents per cubic yard. The material was firm mud. The berth was deepened about 2 feet or to 14 to 15 feet at low water ordinary spring tides.

A small amount of dredging, included in the above quantity, was also done in the berth at the upper end of the wharf.

RICHIBUCTO BEACH.

The Richibucto river enters the Northumberland strait 3 miles below the town of Richibucto, about 26 miles south of Miramichi bay, and 40 miles north of Shediac.

Works intended to protect the beaches at each side of the entrance and to increase, by scour, the depth over the bar outside, were begun on the north beach in 1873.

On the 7th July, 1914, a contract was entered into with Engineers & Contractors, Ltd., for the construction of extensions to the breakwaters at the north and south beaches.

The extension to the north breakwater was completed during 1914.

Work began on the south breakwater on 13th May, 1915, and the contract was completed on 20th September.

The extension of the south breakwater is 299·9 feet long and 16·4 feet wide on top, and consists of a stone-fill 26 feet long laid over the end slope of the old work, and a pile breakwater, 273·9 feet long, composed of 46 braced pile-bents, of 3 piles each, close-piled at the outer end and on each side. The outer end, and a length of about 18 feet on either side, is doubly close-piled; the piles are driven through brush mat-

tresses which, outside the pilework, support slopes of large stone reaching up to low-water level. The interior is filled with brush and stone. The top of the work is 11 feet above high-water ordinary spring tides.

The expenditure for the fiscal year was $30,326.02, including $349.48 for inspection. The total amount of the contract for both extensions, which was on a unit price basis, was $52,951.16 and the total expenditure to date, on the Richibucto beach works, has been $241,982.97.

RICHIBUCTO CAPE.

Richibucto Cape lies 6 miles southeast of the entrance to Richibucto harbour and 5½ miles north of Chockfish river. The distance from Richibucto cape to Prince Edward Island is 14½ miles.

The works at Richibucto cape, begun in 1908, will consist of a main breakwater and a southern pier forming a sheltered harbour about 2·8 acres in extent.

During the fiscal year 1915-16, work was in progress on the southern pier, of which a shore section 60 feet long, was begun in the previous year. The additional tiers were placed and three extra cribs built giving the work a total length of 326 feet. The cribs are about 14½ feet wide at the bottom and 9 feet high.

A 30-foot end-block, which had settled considerably at one corner, was levelled with extra timbers, three tiers of 10 by 12 lumber being required at the deepest point. There remains a gap of about 160 feet between the end block and the present end of the approach as well as an opening of 100 feet between the end block and the pier-head of the breakwater.

A plank gangway on trestles, 160 feet long by 7 feet wide, was built from the north side of the breakwater to the top of the bank at the lobster factory.

The exependiture for the fiscal year was $2,009.21.

RIVER ST. JOHN AND TRIBUTARIES.

BURTON COURT HOUSE.

Repairs to the floor of the wharf at this place were made by day labour; 6,000 feet B.M. of 3-inch spruce planking were placed.

Work commenced September 10 and was completed September 15, 1915.

The total cost of the work was $149.

EARLE'S.

A graded timber-wharf was constructed at this place by day labour. Work commenced June 19 and was completed October 29, 1915.

The old low-water wharf had got into very bad condition and was too low to be of use, except in very low water. The present work consists of removing the top, over part of the area of the old wharf, to below low-water, and building a new crib on the foundation thus obtained. Over the rest of the old wharf, piles were driven, capped and floored with 3-inch planking. The graded and high water sections consist of a rock-filled crib with gravel surface on the upstream side and pile bents and plank floor on the down stream side. A timber trestle, 48 feet long, and an earth-fill, 30 feet 6 inches long, forms the approach.

A 10 by 20 warehouse, divided into waiting and store rooms, was built at the inner end of the graded section.

The total cost of the work was $1,006.25.

EVANDALE.

The warehouse and steps on the wharf were given two coats of paint, under agreement with Wm. N. VanWart.

The total cost of the work was $25.

HATFIELD'S POINT.

A concrete sidewalk was built on the graded concrete wharf.

The fill and surfacing of the wharf had settled and washed considerably since it was placed in the latter part of 1914. This was repaired at the same time the sidewalk was built.

The work was done by day labour, and work commenced June 29 and was completed July 27, 1915.

The total cost of the work was $237.43.

LONG POINT.

A graded timber wharf was constructed by day labour. Work commenced June 24 and was completed November 27, 1915.

The old low-water wharf had got into very bad condition and was too small for the traffic to be accommodated. The present work consits of enlarging it by sinking a new crib entirely around the pier-head, the approach was also widened by building a crib 10 feet wide all the way inshore along its down-stream side. The up-stream face of the old approach was torn down and a new facing replaced it. A large part of the old wharf above low water was torn down and the new work was securely tied in with sound timbers in the old wharf. Close-face work of 10 by 10 hemlock was used throughout above low water. A 10 by 20 warehouse divided into waiting and store-rooms, was built at the inner end of the graded section.

The total cost of the work was $5,501.77.

MILLEDGEVILLE.

A new ferry landing was constructed at this place. The old landing, consisting of 6 timber-crib piers, had become so badly rotted as to be useless, and these were torn out and 8 new piers built in their place. As there was no suitable place on shore for storing the coal used by the ferry steamer, the tops of the piers on one side of the landing were connected, and a coal bin built thereon.

The work was done by day labour, and work commenced October 4, 1915, and was finished March 31, 1916.

The total cost of the work was $4,242.76.

OROMOCTO.

Repairs to the low-water wharf were made by day labour. The work consisted of repairing the two protection piers and filling them with stone.

Work commenced October 25 and was completed November 1, 1915.

The total cost of the work was $138.88.

High Water Wharf.

The floor of the high-water wharf was repaired at a cost of $10.25.

RENFORTH.

A low water wharf was constructed at this place by day labour. Work commenced September 22, 1915, and was completed on March 31, 1916.

The wharf consists of pier-head, 48·8 feet on the face by 33·8 feet deep, with an 18-foot approach, 143·5 feet long and an earth and stone fill grading 98 feet long. The approach and part of the pier-head are carried on piles. The remainder of the pier-head is a close-faced rock-filled timber crib.

The total cost of the work was $4,055.97.

SUMMERVILLE.

A new ferry-landing, consisting of 8 rock-filled timber-cribs and a graded approach, was constructed at this place. The old cribs, of which there were five, had become badly rotted and practically useless.

The work was done by day labour, and work began June 14 and was completed October 4, 1915.

The total cost of the work was $3,975.67.

SUMMERVILLE AND BAYSWATER.

These two places are on the route of the ferry steamer *Maggie Miller*. The ferry-landing at each place was in very bad condition and in order to make them usable at high water, 25 piles were driven at Summerville and 6 at Bayswater.

The work was done in May, 1915, under agreement with Robert Roberts and Son.

The total cost of the work was $155.04.

UPPER MAUGERVILLE.

The floor of the high-water wharf was repaired at a cost of $11.37.

UPPER ST. JOHN RIVER.

EDMUNDSTON.

Some years ago, the department built a training wall along the river bank at this place. The area between this wall and the village houses was used as a dump and came to be a menace to public health. During the past year, this area has been filled and covered with a gravel surface.

The work was done by day labour; work began May 10 and was completed July 16, 1915.

The total cost of the work was $1,500.71.

GRAB-ALL, TOBIQUE RIVER.

This place is situated just above the mouth of the river and has been a very difficult and expensive place to drive logs past. A stone-filled timber crib was built to keep logs from going on Grab-all island.

The work was done by day labour; work began on September 14 and was completed October 29.

The total cost of the work was $500.21.

GRAND RIVER.

During the past season, two rock-filled timber cribs were built on this river, one was 164 feet long, 5 feet wide and 7 feet high, and the other 80 feet long and 7 feet high. Considerable work was also done in removing rocks, trees, etc.

The work was done by day labour, and was begun September 1 and completed September 17, 1915.

The total cost of the work was $399.88.

GREEN RIVER.

During the past season, rocks were blasted from the channel of this river over a stretch of 30 miles, beginning 7 miles from the mouth of the river.

The work was done by day labour; work was begun August 16 and completed October 27, 1915.

The total cost of the work was $570.

IROQUOIS RIVER.

About 8 miles from the mouth of this river, a stone-filled timber crib, 121 feet long, 8 feet wide, and from 5 to 7 feet high, was built to prevent excessive bank erosion.

The work was done by day labour, and was begun December 1, 1915, and finished January 29, 1916.

The total cost of the work was $396.86.

MINK COVE, TOBIQUE RIVER.

A breakwater, 115 feet long and 8 to 16 feet wide and 7 feet high, was built at this place. It consisted of a rock-filled cedar crib.

The work was done by day labour, and was begun September 28 and completed October 13, 1915.

The total cost of this work was $299.06.

QUISIBUS RIVER.

On this river, at a point about 1½ miles from the mouth of the river, an abutment, 75 feet long, 13 to 30 feet wide, and 7 feet high, was built to prevent bank erosion. It consisted of a stone-filled timber crib.

The work was done by day labour, and was begun August 23 and completed August 27, 1915.

The total cost of the work was $195.50.

RED RAPIDS.

During the past season, rocks were blasted from the channel of the Tobique river between Red rapids and the head of the narrows.

Work was done by day labour, and was begun August 28 and completed September 15.

The total cost of the work was $247.96.

SIEGAS RIVER.

The banks of this river were riprapped, the channel cleared and a cut made through a bar.

The work was done by day labour, and was begun September 1 and completed September 17, 1915.

The total cost of the work was $199.50.

ST. FRANCIS RIVER.

A tow-path, three miles long, was cleared on this river.

The work was done by day labour, and was begun November 8 and finished November 19, 1915.

The total cost of the work was $100.

TOBIQUE NARROWS.

Rocks were blasted from the channel at this place.

The work was done by day labour, and was begun August 3 and completed August 14.

The total cost of the work was $200.

TROUT RIVER.

During the spring freshet, this river broke away from its old bed and eroded a new channel about 1,500 feet long. A stone-filled timber crib 145 feet long and 4 to 5 feet high on the face, was built, to turn the river back into its old bed.

The work was done by day labour, and was begun November 9, 1915, and completed January 10, 1916.

The total cost of the work was $372.87.

TURNER.

This place is on the Tobique river about 18 miles above Perth. A breakwater, 152 feet long, 8 feet wide, and 5 feet high, was repaired at this place. It consisted of a stone-filled timber-crib, and was for the purpose of aiding log driving.

The work was done by day labour, and was begun September 2 and completed September 30, 1915.

The total cost of the work was $150.

WOOLHAUPTER.

This place is on the Tobique river about 14 miles above Perth. Here, the channel, back of Woolhaupter island, had become choked for a distance of about one-half mile by drift-wood. During the summer, this obstruction was removed.

The work was done by day labour, and was begun September 3 and finished September 6, 1915.

The total cost of the work was $49.50.

RIVER AND TRIBUTARIES GENERALLY.

Owing to the extensive lumber operations on the St. John River system, there are annually a great many snags to be removed. In the main these consist of logs, which have become water-logged and partly submerged. Very frequently these logs lie in an inclined position with one end on the bottom of the river and the other at or near the surface. They constitute a very serious danger to navigation and each year a large number are removed.

In 1915, snagging began on August 25 and was finished on October 16, and the total cost of the work was $1,883.06.

ST. ANDREWS.

St. Andrews, Charlotte county, is a terminus of a branch of the Canadian Pacific Railway, and lies, by water, 50 miles west of St. John. An extension of the public, or what is known as the market wharf, was built by the department in 1909-10. The extension consists of a pile-approach 468 feet long, and a pier-head of square cribwork, 36 by 70 feet. There is a depth of 34 feet at high water at the end of the pier-head.

During 1915-16, some of the covering on the wharf was replaced, and repairs were made to the waiting-room of the freight shed. Work was in progress from July 26 to August 20, 1915.

Expenditure for the fiscal year is $362.42.

ST. CHARLES.

The St. Charles river flows into the northwest arm of Richibucto harbour, about 4 miles northwest of Richibucto. The river is navigable for small boats for about 5 miles or as far as the upper highway bridge, and drains a good farming district, having a population of about 150 families.

During the fiscal year 1915-16, a small wharf, for landing and storing shell-mud, used as a fertilizer, was built on the north shore of the St. Charles river, about 3 miles above the mouth and 2 miles below the landing constructed in the previous year. The wharf consists of an approach, 40 by 12 feet and a block 40 by 40 feet. It is 4 feet high at the outer end and is built of round-timber cribwork, every alternate bay having a ballast floor and is filled with ballast and with mud dredged from the berth in front.

and surfaced with about 6 inches of gravel. A right of way, 33 feet wide, was purchased and a road about 300 feet long graded, ditched and surfaced with gravel, 10 feet wide, and fenced on either side with wire fencing.

The work was in progress on June 8, July 16, 19 and 21 and on August 2, between October 4 and 14, on October 23 and between November 9 and 16.

The expenditure for the fiscal year and the total to date has been $473.77.

Landing Slip.

Between the 2nd and 5th November, 1915, a slip or ramp of the landing near the upper highway bridge of the St. Charles river, which had been lifted by a scow moored to it during a freshet, was replaced. The slip was weighted with about 12 tons of stone placed over 10 new ballast poles and also secured with six anchors of wire and stone sunk 4 feet below the work.

The expenditure for the fiscal year was $26.12.

Dredging.

Dredging was asked for and has been carried on in the last three seasons, to enable scowloads of shell mud, used as a fertilizer, to be delivered at the farms along the river and at a storage point at the head of navigation. About 4,500 cartloads were used during the past season.

Work was in progress by day labour between 5th August and 19th October and between 3rd and 5th November, 1915, when 1,600 feet of the channel was dredged, 1½ to 2 feet deep, for a width of 30 feet. A small orange-peel dredge, the *St. Charles,* belonging to the local agricultural society was hired, at $14 per day, including wages of engineer and cost of oil and gasolene. As the work proceeded, rough breastworks of logs, brush and mill refuse weighted with stone and filled with dredged material were built at one side or other for about 1,400 feet of the cut to retain the current in the dredged channel.

The material removed, consisting of sand, mill refuse, etc., amounted to 3,622 cubic yards, barge measurements, and cost, including the cost of the breastworks, 44·7 cents per cubic yard.

The expenditure for the fiscal year was $1,619.89.

ST. CROIX RIVER.

The St. Croix river, Charlotte county, forms part of the western boundary of New Brunswick, and at the same time a portion of the boundary between the Dominion of Canada and the United States. In 1911, an arrangement was entered into with the United States Government, whereby the Public Works Department of Canada agreed to contribute 10 per cent of the cost of dredging a channel in the St. Croix river. The total estimated quantity was 443,835 cubic yards, to provide a channel, 9 feet deep and 100 feet wide, from the upper steamboat wharf at Calais to the public landing at St. Stephen, thence, 9 feet deep and 150 feet wide, to the lower steamboat wharf at Calais, thence, 12 feet deep and 200 feet wide, to the mouth of the river.

On 9th of February, 1912, the United States Government entered into a contract with the Bay State Dredging Company, of Boston, Mass., for the first instalment of dredging, namely, 226,920 cubic yards. Work was begun 17th May, 1912, and on 27th September, 1913, the dredging covered by the first contract was completed. The total quantity removed under the first contract was 237,420 cubic yards, scow measurement.

On 22nd September, 1913, the United States Government entered into a second contract with the Bay State Dredging Company, for the removal of 140,000 cubic yards, scow measurement. The work on the second contract was begun on 29th September, 1913, and was completed on 28th December, 1914. The total quantity removed under this contract was 244,216 cubic yards of mill-waste, mud, gravel, sawdust and logs and 11 cubic yards of boulders.

On 7th September, 1915, the United States Government entered into a contract with the Eastern Dredging Company, of Boston, Mass., for the dredging of a channel, 2,000 feet in length, to a depth of 9 feet at mean low water, from the upper end of the section previously dredged, opposite the public landing at St. Stephen, N.B., upstream to a point near the international bridge at Calais, Maine. The estimated quantity to be removed under this contract is 69,200 cubic yards. Between 27th October and 9th December, 1915, the Eastern Dredging Company's dredge, *Kennebec*, removed, above the required depth, 17,846 cubic yards of mill-waste, mud, sand, gravel and logs and 2·22 cubic yards of boulders.

Canada's share of the cost of dredging done in 1915-16, is as follows:—

10 per cent of 17,846 cubic yards at $0.5383	$960.65
10 per cent of 2·22 cubic yards at $10	2.22
Total	$962.87

ST. JOHN HARBOUR.

Courtenay Bay.

(This work is described in the annual report for 1915.)

During 1915-16, the work of laying large-sized cover stone on the breakwater has progressed satisfactorily, there only remains about one-seventh of the outside length, and about half of the inside and of the top wall to be laid. The concrete pier-head was carried up to full height. No work was done in the excavation of the dry dock prism proper but the area on each side which will accommodate tracks and repair shops, etc., has been increased by excavation. The suction and ladder dredges excavated 1,987,319 cubic yards in the basin, increasing the hole to about seventy-one acres in extent, varying in depth from 10 to 20 feet below low water. The ladder dredges have excavated 1,095,343 cubic yards, from the second half of the channel width for about the inner third of the channel length, giving a width of 500 feet, and making a depth of from 10 to 20 feet at low tide. The expenditure for the fiscal year was $924,025.18.

BEACON BAR.

(This work is described in the annual report for 1915.)

Fiscal year 1915-16, concrete work under this contract was completed on May 7, 1915. This included the completing of the wall started by Mr. Connolly, at berth 14, the end of the pier and the southern end of the wall at the head of the second slip, 4,472 cubic yards of concrete were placed.

The concentrated weight of reclaimed material, on the back of the north wall of the pier, caused a settlement of the central part of the wall into a yielding substratum of the foundation. To prevent further lateral motion, sixty-six 2-inch 200-ton capacity plough steel cables were run across the pier, securing the two walls together.

The expenditure for the fiscal year 1915-16 was $111,342.73.

Backfilling for Wharves.

On the 1st of February, 1913, a contract was entered into with the Maritime Dredging & Construction Company, Ltd., for earth filling at the back of the lines of cribwork and concrete superstructure being built on the Beacon Bar, at a price of 15 cents per cubic yard.

During the fiscal year 1914-15, the filling amounted to 1,074,694 cubic yards, for which the sum of $161,204.10 was paid the contractors.

During the fiscal year 1915-16, 24,953 cubic yards were placed, at a cost of $3,742.95. This completed the amount of filling covered by their contract, and operations were suspended until a further contract is let.

Permanent Shed Foundations.

In June, 1914, the Government entered into an agreement with the Maritime Dredging & Construction Co., Ltd., for the construction of the foundations for the permanent shed A, on the site where the temporary shed is built at present.

Owing to the necessity of building this temporary shed, no work was done during the year outside of the purchase of piles and other materials, the plan being to proceed with the building of the foundations for the shed on the pier during the next season, leaving the construction of shed A till some later date. The expenditure during 1914-15 was $6,666.69.

No work was done on this during the year 1915-16, as the backfilling was not in place in the pier to take the foundations. The expenditure of $1,374.34 was occasioned by the purchase of material, and the removal of that on hand, to a new storage location.

Temporary Sheds.

Extra storage accommodation was found to be necessary for the handling of munitions of war during the winter season, and Messrs. Rhodes Curry Company, of Amherst, were awarded a contract to construct three temporary wooden sheds, A, B, C, for the sum of $19,100. Later, it was found that these sheds would not be sufficient, and their contract was extended to cover construction of an additional shed, D, at a price proportionate to the cubic volume as compared with the contract price and volume of the other three sheds, $13,309.15. The shed A was an extension of the shed built in 1914 at berth 15, westward to near the head of the slip, and is 198 feet long and 80 feet wide. Shed B, 240 feet along berth 14, and 90 along berth 15, connected with the older shed, 80 feet wide and four feet higher than that shed, i.e., 18 feet 4 inches. Shed C was built on the western end of the Government portion of the Union pier, berth 7, and is 155 feet long and varied from 70 to 42 feet wide and is 18 feet 4 inches high, built to the rear of sheds at berths 14 and 15. The first three were completed first and the last on the 31st of December, 1915.

The following extras and equipment of the sheds, etc., were built under the cost, plus 10 per cent, clause of their contract; cribwork track depression retaining walls at the rear of sheds A and B, and three sides of D; the extension of the shed platform to top of these; continuous platform in front of sheds A and B to the face of the wharf instead of ramps; extension of track depression retaining-wall with a platform between same and face of wharf at west end of shed A; construction of a cribwork and plank-proteetion retaining-wall for embankment westward from the head of berth 15; placing of mooring posts, the construction of loading gangways, landing stages, additional doors, etc., in the older shed 15, etc. Total amount for these being $10,656.81.

John B. Jones, jr., was awarded the contract for the installation of electric lighting systems in these sheds, contract price was $1,450, and an addition for extra lights was $62.98.

The Canadian Pacific Railway Company were authorized to construct a pile and frame work trestle, on which they laid their track, from the siding on Protection street, ending in two sidings at the rear of shed B, berth 14. They also widened the embankment so that an additional track could be laid from their new elevator yard and laid seven tracks, for storage and shunting purposes, at the rear of shed D to connect with this. The trackwork required a small amount of excavation and fill to make grade for the tracks. The agreement with the company being that they will be reimbursed for the trestlework and fill, etc., required on which to lay their tracks, the latter to be

removed by the company at the end of the war, should the department not wish to purchase them. They also supplied the filling between the track depression retaining-walls, on which shed D is constructed, total cost being $7,689.11. They also constructed a platform at the north end of shed B.

The Maritime Company repaired floating fenders, that had been damaged, at a cost of $686.04.

The following new and repair work was done by day labour at berth No. 15: extension of 8-inch water main to near the head of berth No. 15, a distance of 435 feet; thawing out and repairing fire protection and steamship service water-pipes that froze at different times during the winter; repairs and renewals to wharf, sheds and apparatus. At the Union pier, the fire protection water-pipe was extended from the main, under shed No. 6, to shed C, terminating in two hydrant valves; at the rear of shed No. 6 extension, the roof gutters were renewed, and additional door constructed and the wooden guides at the bottom of the doors replaced by iron ones; a door was added at the rear of No. 7 shed; broken wharf fenders and ladders were replaced and landing stages, etc., repaired; additional hose and hose reels, fire extinguishers, etc., were supplied for the new sheds.

The expenditure for the year is $57,279.78.

SAND POINT.

Shipping Galleries.

In order to facilitate the shipping of grain from berths Nos. 5 and 6 of the Sand Point basin, and thus obviate the necessity of moving vessels across the slips to berths Nos. 3 and 4, which are provided with grain conveyors from the old C.P.R. company's elevator, the department built galleries to these berths in 1914-15.

The bank at the head of the Sand Point basin moved slightly in March, 1915, throwing the grain conveyor gallery out of line. The contract for repairs was given to the John S. Metcalf Company, who built the galleries, and these were effected by the driving of additional piles, and strengthening of the towers, the jacking back of the gallery into line and the placing of anchorages to which the towers were secured by iron rods to prevent any further movement.

The work was completed in June, 1915, at a cost of $3,328.33. Other repairs and changes found necessary in these galleries were carried through by the C.R.Ry., at an expenditure of $451.17.

Dredging.

On 10th May, 1909, a contract was let to the Maritime Dredging and Construction Company for dredging the sites of proposed deep water docks at Beacon Bar, to a depth of 32 feet at low water in the berths and channel, and 36 feet at low water on the crib sites, exclusive of sub-grade. The contract rate for class B material was 39½ cents per cubic yard, scow measurement, and for class A, $4.90 per cubic yard. On 30th May, 1914, an extension to the area of the original contract was granted at a reduced rate of 34 cents per cubic yard, scow measurement, for class B material. On 17th August, 1914, the rate for work on the original contract was also reduced to 34 cents. The total quantity of material removed to the 31st of March, 1915, was 8,058,589.19 cubic yards.

During 1915-16, a quantity of 75,308·5 cubic yards, scow measurement, of gravel, sand and clay was removed, between 1st April and 10th May, by dredges *Cynthia* and *St. John,* to provide material for filling at the docks. The Maritime Dredging Company were allowed payment for the removal of 33,036 cubic yards, scow measurement, of material in berths 15, 16, below the grade which existed previous to material being deposited there for reclamation purposes. This dredging was done in 1914-15, but payment was not made until 1915-16.

The final estimate on this contract was sent in on 17th November, 1915, and was made up as follows:—

Total quantity of material removed, 8,166,933.69 cubic yards		$3,155,971 04
Deduction: Material found to have been removed below sub-grade, and outside contract limits:—		
34,133 cubic yards barge measurement—class B	at 39½c.	13,482 54
89,288 cubic yards barge measurement—class B	at 34c..	30,357 92
		$43,840 46

FOUL GROUND.

The work of dredging the harbour channel to a 30-foot grade has been carried on throughout by the departmental dredge *Fielding,* but it was found that this dredge, which is of the ladder type, was incapable of removing the stiff clay and boulders encountered near the head of the channel, on what is known as the Foul Ground. Owing to this, tenders were called, and a contract was entered into on the 30th of May, 1913, with the Maritime Dredging and Construction Company, Limited, for the removal of 35,000 cubic yards, scow measurement, of clay, gravel and boulders, at $6.90 per cubic yard for class A, and $0.49½ per cubic yard for class B material, the work comprising the removal of all material overlying ledge rock at the point of the Foul Ground. An extension of the contract, for the removal of 12,000 cubic yards, scow measurement, additional, was authorized in December, 1913.

From the beginning of the work to the 31st of March, 1915, the total quantity of class A material removed at the Foul Ground, by the Maritime Dredging and Construction Company's dredge *Cynthia,* was 123·52 cubic yards and the total quantity of class B material removed during the same period was 51,548 cubic yards, scow measurement.

During 1915-16, as difficulty was met with in removing boulders with the dredge, the work was undertaken by means of the departmental *Stone Lifter,* the Maritime Dredging and Construction Company agreeing to pay all the wages for the days on which boulders were removed. Between 28th July and 6th October, 1915, thirty-one boulders (each containing 2 cubic yards or more), aggregating 227·52 cubic yards, and one hundred and twenty-five boulders (each containing less than 2 cubic yards), aggregating 56·49 cubic yards, were removed at the Foul Ground, by means of the *Stone Lifter.*

The cost of the work during 1915-16, was $2,857.85.

MAIN CHANNEL.

The main entrance channel of St. John harbour has a length of 4,500 feet, being 600 feet wide for 1,800 feet, and widening gradually to 1,000 feet in the remainder of its length. The departmental dredge *Fielding* has carried on improvements in the channel since 1908. The work consists of dredging to a depth of 32 feet at low water, and the maintenance of this depth.

With the exception of a small area at the point of the Foul Ground, where ledge rock enters the channel at a depth of 27 feet below low water, the whole channel had been, previous to 1914-15, dredged to a depth of 30 feet. During 1913, however, a large bar formed across the channel, approximately 2,000 feet long, allowing a depth of but from 24 to 27 feet below low water. The bar consisted of very fine sand.

During 1915-16, the departmental dredge *Fielding* removed 152,664 cubic yards, scow measurement, of sand and mud, in the main channel of St. John harbour, between 3rd May and 25th September.

Over an area which was formerly included in the Beacon Bar dredging contract, in what might be called the inner channel, the *Fielding*, removed 89,141 cubic yards, scow measurement, of mud and gravel, between 22nd November, 1915, and 18th March, 1916.

MARINE WHARF.

At the request of the department of Marine and Fisheries, the departmental dredge *Fielding* was placed at work in dredging a berth, to a depth of 16 feet at low water, on the downstream side of the new marine wharf, West St. John.

Work was in progress between 17th and 28th February, 1916, and a quantity of 1,086 cubic yards, scow measurement, of mud and rocks was removed. Owing to the fact that rock was encountered, a depth of only 9 to 10 feet at low water could be made.

WEST ST. JOHN.

On the west side of St. John harbour there are ten deep water-berths, including those at Sand Point, Rodney Slip and the new docks lately constructed on the side of Beacon Bar. Owing to the fact that a considerable amount of filling-in occurs each season, it is necessary to have the berths for steamers cleared up previous to the opening of the winter-port season. In 1914-15, a total quantity of 106,268.6 cubic yards, scow measurement, were removed by departmental and contractors' dredges, in clearing up Sand Point berths, etc.

During the month of October, 1915, the departmental dredge *Fielding*, removed 33,390 cubic yards, scow measurement, of mud from berths 3, 4, 5 and 6. Between 25th October and 31st December, 1915, in berths 14, 15 and 16, the *Fielding* also removed 54,254 cubic yards, scow measurement, of mud, sand and gravel.

To remove material close to the face of the wharfs, which the departmental dredge *Fielding* was incapable of removing, contractor J. A. Gregory's clamshell dredge *J. A. Gregory* was employed, at 50 cents per cubic yard, scow measurement.

In berths 4, 5 and 7, contractor J. A. Gregory's dredge removed a quantity of 8,605.1 cubic yards, scow measurement, of mud, between 6th October and 10th December, 1915. In berths 14 and 15, a quantity of 175.4 cubic yards, scow measurement, of mud, gravel and rock, was removed, between 12th November and 4th December, 1915.

SEAL COVE.

Seal Cove, Charlotte county, is situated on Grand Manan island, about 62 miles southwest of St. John, in a direct line, and is one of the most prosperous fishing villages in the Maritime Provinces. In 1909-10, the department constructed a breakwater on the western side of the harbour of Seal Cove, 448 feet long and from 21 to 37 feet wide. In 1913-14, the department built a breakwater pier, on the eastern side of the harbour, to provide a larger sheltered area for fishing boats. The work consists of round cribwork, 515 feet long and from 24 to 30 feet wide on top.

During 1915-16, the roadway to the eastern breakwater, 150 feet long, was graded, and a breast-wall, 3 feet high and 24 feet long, of timber cribwork, was constructed to protect this roadway. The work was performed during the month of June, 1915.

Expenditure for the fiscal year is $75.

SHEDIAC BAY—GRANDIGUE.

Shediac bay lies on the Northumberland strait at the junction between Westmorland and Kent counties.

A blind channel leads into the inner Shediac bay, or the northern end of Shediac harbour, towards the Grandigue wharf and dredging was asked for in the approach to

the wharf and across the shallow harbour largely to get rid of the seagrass, which grows so thickly as to block the passage of gasolene boats now coming into general use for fishing.

During 1914, the berths at end approach to the wharf were dredged.

Between 6th July and 5th August, 1915, dredging was in progress by day labour in making a cut 2,000 feet long and 15 wide with 5 feet at low water, from the end of the blind channel towards the wharf.

Between this cut and the outer end of the approach dredged in the previous year is a gap of 350 feet.

A small orange-peel dredge, belonging to the local agricultural society, was hired for $20 per day, including use of three scows, services of engineer and cost of gasolene and oil.

4,197 cubic yards barge measurement of mud were removed, at a cost of 23.65 cents per cubic yard.

The expenditure for the fiscal year was $992.77.

SHEDIAC ISLAND.

Shediac island, in Shediac harbour, is about 2 miles long and 1 mile in extreme width.

A wharf, 712 feet long, was constructed in 1914 at the northwest point of the island, about 1½ miles from the Grandigue and 3½ miles from the Shediac wharf on the mainland.

Between 9th and 19th August, 1915, a wire fence was built along each side of the right of way to the wharf. 90 rods of fencing was used together with 91 posts and 2 gates.

The expenditure for the fiscal year was $122.70.

SHIPPIGAN GULLY.

Shippigan gully, a passage between Shippigan island and the mainland, much used by fishing and other vessels in passing from Baie des Chaleurs to the Gulf of St. Lawrence, is situated 56 miles east of Bathurst, the shire town of the county of Gloucester, and three miles from Shippigan, the terminus of the Caraquet Railway.

Works were begun in 1875 to improve the channel at the gully, in which there was then a least depth of only 3¼ feet at low water. The construction of dams and breakwaters, concentrating the current in one channel, increased the depth to nearly 6½ feet in 1898, 8 feet in 1903-04, and about 8·5 feet at low water or 14·3 feet at high water ordinary spring tides in 1915.

Between 1st June and the 16th August, 1915, about 675 lineal feet of light breastworks and one section, 159 feet long, of heavier work, partly resting on a brush mattress, were built to close gaps made by a storm on the west beach. On the east side, a pilework block, 106 feet long, was partly constructed to replace a wrecked section of the breakwater. 63 main and 88 close-piles were driven and walings and cross-ties were placed. A shed, 12 by 20 feet, a scow, 40 by 12 feet, and a pile-driver frame were built and the donkey engine repaired for use on the work.

The expenditure for the fiscal year was $3,441.02.

SOUTHWEST MIRAMICHI.

Lower Derby.

Lower Derby is a settlement on the Southwest Miramichi river about 5½ miles above Newcastle.

The channel crosses here from the north to the south side of the river and a shoal has formed at the crossing which was first dredged in 1908 and 1909.

Between 5th July and 18th September and between 20th October and 5th November, 1915, dredging was in progress under contract with Mr. Peter England, when 17,492·8 cubic yards, barge measurement, of sand were removed by the dredge *Peter England*.

A cut about 2,000 feet long and 100 to 130 wide was made with 7 feet at low water ordinary spring tides.

The expenditure, including $207.25 for inspection, was $6,504.66.

STONEHAVEN.

Stonehaven is situated on the south side of the Baie des Chaleurs, 18 miles east of Bathurst.

The breakwater, originally 425 feet long and built by private parties, was acquired by the department in 1878.

During the fiscal year 1915-16, repairs were in progress on the Stonehaven breakwater, particularly of the damage to the approach caused by the storm of the 20th November, 1914, which carried away part of the wave-break and a considerable part of the covering and stringers, the elevated shipping track, etc.

Beginning at the inner end of the approach, for about 120 feet, the stone, etc., carried on the breakwater was removed and the breakwater was surfaced with ballast and gravel. In the next 70 feet, a flooring of concrete 15 feet 4 inches wide and 6 to 8 inches thick was laid, reinforced with wire fencing. Under the outer 27 feet of the concrete and beyond for about 73 feet, the cribwork was rebuilt 2 to 5 tiers high and filled with stone. A new ballast floor was laid over 50 feet of this length and the outer 73 feet was covered with 6-inch plank. A further section of 50 feet required no repair and beyond this for about 95 feet new upper cross-ties, stringers and flooring were laid. From this point to the pier-head, about 80 feet, and for about 20 feet along the pier-head, the old covering, which had been lifted by the seas, was relaid.

Along the eastern side of the approach the track, on which grindstones are hauled to the vessels, was rebuilt on stringers and sleepers, and a section of the wave-break, 50 feet long, was rebuilt. About 42 new fenders were placed on the outside of the pier-head and northeast corner.

132 cubic yards of small stone were purchased for the work, and 352 cubic yards of large granite blocks were purchased and placed around the northeast corner and the outside of the pier-head. 28 lineal feet of cap timber was replaced on the approach.

The track timbers, tops of the fenders, etc., were painted with carbolineum.

The work was in progress between 25th May and 26th July, between 4th and 10th August, on 20th August, between 1st and 11th September and 5th and 7th October.

The expenditure for the fiscal year was $2,477.90.

CHAMBERLAIN'S.

During the fiscal year 1914-15, the small landing wharf for fishing boats, begun in the previous year, at the foot of Chamberlain's road, so called, about ½ mile west of the Stonehaven breakwater was completed.

Between 2nd and 23rd July, 1915, a ramp or approach to the beach was constructed on the west side of the wharf. The ramp is 36·7 feet long by 16 feet wide and is constructed of cribwork with 3-inch sheathing and fenders along the outer face. The roadway to the beach on the eastern side was graded and gravelled.

On the Chamberlain's road, next the wharf, a guard rail or fence was built along the outside for 65 feet and above this section a 65-foot length of cribwork about 6 feet high, previously built as a retaining wall, was sheathed with 3-inch plank and the total length of the cribwork, 218 feet, was filled with ballast and gravel. The roadway was graded and levelled for about 360 feet.

The expenditure for the fiscal year was $397.43.

THE RANGE.

The Range, Queens county, is situated at the upper end of Grand lake about 72 miles from St. John.

Dredging was done to give access to a slab and sawdust wharf immediately downstream from the high water wharf. This will allow of loading lumber from the adjacent saw-mill into scows, without interfering with the public's use of the passenger and freight wharfs.

The basin dredged was about 215 feet long by 60 wide and was dredged to 7 feet below low water. The area dredged over was approximately 12,000 square feet.

The material removed consisted of mud, hardpan sawdust and slabs.

1,200·4 cubic yards, place measure, were removed. The corresponding scow measurement was 2,730·9 cubic yards. The expansion factor therefore was 127·5 per cent.

The contract rate of payment was 40 cents per cubic yard and the total amount due the contractor was $480.16. The contractor was the St. John River Dredging and Construction Co., and the work was done by the dredge *Tantawanta*. Work began on June 22 and was finished on June 25.

This improvement is expected to be permanent.

THOMAS CREEK.

Thomas Creek, St. John county, is situated about 8 miles from St. John, about one mile from Mispec, and is the home of about twenty-five fishermen. During 1913-14, the department built a beach protection, consisting of 150 lineal feet of cribwork, 11 feet wide and 8 feet high. A second wall, 66 feet long, 18 feet wide and 11 feet high, was also built and filled with ballast.

On 29th February, 1916, an authorization was received to expend $100 in constructing a small flight of steps and in making some improvement, where the work had been undermined by recent storms. Owing to heavy storms, the work was not performed but some spikes, etc., were purchased.

Expenditure for the fiscal year is $2.78.

TRACADIE.

Tracadie is a farming, fishing and lumbering village and settlement about 17 miles south of Shippigan gully and 23 miles north of Miramichi bay.

Between 5th and 10th and 21st and 23rd July, 1915, work was in progress on the breastworks along the Tracadie beach, which were badly damaged in the storms of November, 1914.

The breastworks consist generally of two rows of pickets, two feet apart, the pickets being 2 feet apart in the row. For about 4,270 feet, brush was placed between the pickets, and for about one-quarter of this distance new pickets were driven, the old having been carried away. In a further length of about 1,200 feet, pickets were driven for an extension of the breastworks but were not filled with brush. About 168,000 cubic feet of brush was used.

The expenditure for the fiscal year was $979.90.

UPPER CARAQUET.

Upper Caraquet is situated at the western end of Caraquet harbour and about six miles west of Caraquet village.

A public wharf, 350 feet long, was constructed here in 1891.

In the storm of 20th November, 1914, the wharf was badly damaged. Three of the four 15-foot square blocks were moved out of place, and the pier-head and part of the shore block were broken and lifted off the foundation timber.

During the fiscal year 1915-16, the wharf was rebuilt. The three displaced blocks were removed and a cribwork, 61 by 15 feet, was constructed, with a 15-foot span at either end between the shore block and block No. 3 of the original work, and between block No. 3 and the pier-head the space of 50 feet was filled with solid cribwork.

The raised timbers of the shore block were replaced in a length of 64 feet and the old decayed plank covering was removed.

The raised pier-head was lowered and secured on the original foundation.

The two spans were covered with plank but otherwise the whole top of the wharf was filled with ballast and surfaced with gravel. New cap timbers were laid throughout, the sides were sheathed with 4-inch plank and the tops of cap, sheathing, etc., were painted with carbolineum.

Work was in progress between 2nd August and 16th October and between 26th and 30th October.

The expenditure for the fiscal year was $1,853.46.

UPPER JEMSEG.

Upper Jemseg, Queens county, is near the upper end of the Jemseg river, which is the outlet of Grand lake.

Dredging was done for the purpose of improving the approach to the low-water wharf. A basin about 270 feet long by 50 wide, was dredged to 9 feet below low water. The material removed consisted of sand and gravel.

5,761·8 cubic yards, scow measure, were removed. The rate of payment was 30 cents per yard, and the total amount due the contractor was $1,728.54.

The contractor was the New Brunswick Construction Co., and the work was done by the the dredge *Tantawanta*. Work began on June 11 and was completed June 17, 1915.

It is expected that this improvement will be permanent.

UPPER SALMON RIVER.

Upper Salmon River, otherwise called Alma, Albert county, is situated six miles from Anderson's Hollow, and two miles from Herring Cove. The department has built, on three separate occasions, on the west side of the river mouth, three piers, 30 feet wide on top, respectively 180, 240 and 104 feet in mean length, each being an extension of the other. In 1912, an eastern breakwater, 150 feet long and 20 feet wide, was built.

On the 5th of November, 1913, a contract was let for the construction of an extension to the eastern breakwater, the work to consist of round cribwork 46 feet long and 20 feet wide on top, with a pier-head or ell, 100 feet long and 24 feet wide. In 1914-15, it was considered advisable to dispense with the construction of the ell, and only to build an extension 70 feet long. The work was not constructed until 1915-16, an extension of time having been granted the contractors. Work was begun on 13th September, 1915, and was satisfactorily completed 15th December, 1915.

Expenditure for the fiscal year is $5,132.

WELCHPOOL.

Welchpool, Charlotte county, a fishing village of 600 inhabitants, is situated on Campobello island, 50 miles southwest of St. John, in a direct line, and 14 miles south of St. Andrews. The departmental wharf, built in 1909, consists of round cribwork, 279 feet in total length.

During 1915-16, a warehouse, 12 feet by 18 feet, was constructed on the wharf, for the accommodation of the Collector of Customs and for the protection of perishable freight, etc. The work was performed in July, 1915.

Expenditure for the fiscal year is $166.24.

WEST BRANCH.

Between 25th and 30th October and 19th and 26th November, 1915, a small landing wharf, for unloading shell mud used as a fertilizer, was built on the west branch of the St. Nicholas river, about 5½ miles above the mouth of the St. Nicholas, on the main Richibucto river.

The wharf is 40 by 28 feet, having a frontage of 40 feet on the river and is composed of cribwork faces and sides, filled with ballast and surfaced with gravel, the interior being graded with earth, etc., and surfaced with gravel.

On the outside face the wharf is 4 feet high to the top of the cap.

A piece of land required for a right of way, and a piling ground for the mud, was purchased, also wire fencing for inclosing the government property.

The expenditure for the fiscal year and the total to date, not including the cost of the right of way, is $251.56.

WILSON'S BEACH.

Wilson's Beach is a fishing settlement, situated in a small cove on the west side of Campobello island, part of the County of Charlotte, 50 miles southwest of St. John, in a direct line, and 14 miles south of St. Andrews. The breakwater-wharf is 475 feet long, varying from 15 to 25 feet in width, with a depth of 13 feet at low water at the head.

During 1915-16, five new spruce fender piles, 40 feet long, were placed and secured with heavy chain, at the southern corner of the wharf, as a protection to the wharf and for its improvement as a landing for steamers. The work was performed in the month of February, 1916.

Expenditure for the fiscal year is $45.78.

WOODWARD'S COVE.

Woodward's Cove, Charlotte county, is a prosperous fishing station on the eastern side of Grand Manan island, and is six miles south of North Head. In 1914, the department built a breakwater consisting of round cribwork, 300 feet long and 24 feet wide on top. The work is surmounted by a break, 5 tiers in height.

During 1915-16, a roadway approach to the breakwater, 1,266 feet long, was constructed, and timber protection at the seaward end, 28 feet long, from 3 to 4 feet deep and 8 feet wide, filled with stone, was also constructed. Work was begun on 1st June and completed 12th August, being carried on continuously during June, but not continuously in July and August.

Expenditure for the fiscal year is $774.99.

QUEBEC.

ANSE À BEAUFILS.

Anse à Beaufils, in the municipality of Cape Cove, county of Gaspé, is situated on the gulf of St. Lawrence, six miles south of Percé.

In the year 1898 to 1901, protection works, on each side of the channel leading to the inner basin, were built, consisting of two training-piers, each about 440 feet long.

Later, the western training-pier was extended 150 feet and a breakwater, 95 feet long, built outside on southeast side to protect entrance and prevent silting up of channel, which results were attained. In 1913 and 1914, the harbour proper was dredged and two retaining-walls, giving a total length of timber face-work of 1,150 feet, were built on both sides of the channel of the river.

During the last six months, forty feet of the shore end of the breakwater was carried away in a storm and $254.85 was expended to close the opening at shore end and to replace some of the stone ballast. This temporaray repair stood the fall storms.

ANSE-À-LA-CAVE.

Anse-â-la-Cave is a well sheltered harbour, on the River St. Lawrence, situated some two miles below River des Bergeronnes, and is one of the loading places for the schooners engaged in the coasting trade.

During the present fiscal year, to facilitate the loading of schooners engaged in the coasting trade, the sum of $200.05 was expended in removing boulders.

The work was carried out by day labour, started August 1 and suspended August 10.

ANSE-À-L'ISLOT.

Anse-à-l'Islot is a harbour, seven miles east of Newport, opposite the town of Chandler, protected from northerly and easterly winds by the main coast and from southwest gales by a small island, being thus open only to southerly gales. It was decided to built a landing-pier, running from the main shore towards the outside end of the island, in a southwesterly direction, answering both as a landing pier and as a breakwater against southerly gales.

During the course of last summer, the pier, which had been badly damaged by a storm in the fall of 1914, towards the outside end, was thoroughly repaired, by means of posts inside and iron rods with fenders along faces so as to bind the face timbers. One hundred yards of stone ballast was replaced and the flooring repaired for the whole length.

Expenditure for the fiscal year is $597.33.

ANSE-AU-GRIFFON.

(This work is described in the annual report for 1915.)

Anse-au-Griffon is seventeen miles northwest of Gaspé cape.

During the course of last summer, the shore end of the northwest jetty was repaired, for a length of 150 feet. Some 80 cubic yards of ballast was thrown in, three tiers of timbers were added for a length of 75 feet and the top floored.

Expenditure for the fiscal year is $675.79.

ANSE ST. JEAN.

Anse St. Jean, Chicoutimi county, is situated on the south shore of River Saguenay, some eighteen miles from its mouth, it is a stopping place for the Canada Steamship Co. Population, about 1,500 inhabitants.

During the present fiscal year, an extension of 30 feet in width, 80 feet in length and 35 feet in height, has been placed in front of the wharf.

It is a common round-timber construction, with vertical posts placed at the intersections of cross-ties with face-timbers, standing in 17 feet of water at E. L. W. The extension was ballasted with stone (281 toises), when the work was suspended.

Amount expended, $4,374.54.

The work was carried out by day labour from June 4 to August 31, when suspended.

ANSE-À-GILES.

Anse-à-Giles is a post village in the County of L'Islet on the south shore of the that time.

St. Lawrence, about 45 miles below Quebec. Spring tides rise 21 feet, neaps 13 feet.

The wharf was vested in the Crown in 1904, and underwent some repairs at

The heavy repairs undertaken two years ago were completed during the fiscal year ended 31st March, 1916.

The outer block, 50 by 35 feet, and 17 feet high, was completely demolished and rebuilt with new materials. Thirty-two toises of stone-ballast were added. The space between where there was only a platform, 22 feet long, was filled with crib-work, the height being 11 feet.

The mooring posts and capping pieces have been painted. The wharf is completely renewed on its whole length, and should not need repairs for many years, if we except accidents occurring from ice; its total length is 343 feet, the width is 12 feet for a length of 278 feet, including an earth approach 40 feet long; the outer end, which is 65 feet long, has a width of 35 feet on a length of 50 feet, the remaining part being 24 feet wide.

The work was done by day labour, during the months of June, July and August, at an expenditure of $2,800.

ASHUAPMOUCHOUAN RIVER.

Dredging.

During the summers of 1910 and 1911, a channel had been dredged in the Ashuapmouchouan river and on account of the shallowness of the water, the material had been castover. Complaints were received from boat owners that the dyke caused cross currents. The dredge *No. 111* was used to redredge that castover, and 1,600 cubic yards was removed during last season.

Dredging started May 21, and continued until June 8.

AYLMER.

Aylmer, Wright county, is on the Quebec shore of Lake Deschenes, as expansion of the Ottawa river, 9 miles above the city of Ottawa.

A public wharf was built in 1910-12.

During the past season, repairs consisted of renewing some 800 feet b.m. of 3-inch flooring, placing 15 loads of gravel on graded approach roadway and painting handrailings, wheel-guards and shelter.

Expenditure during the fiscal year, $150.

BAIE ST. PAUL.

Baie St. Paul is situated in the County of Charlevoix, on the north shore of the River St. Lawrence, 64 miles below Quebec. Population, 4,000.

During the past season, the approach to the wharf, at the foot of a dangerous sand slope, was cleared of boulders which had rolled down and obstructed traffic.

Work done by day labour, between 27th September and 4th October, 1915.

Total expenditure for fiscal year, $61.20.

BATISCAN.

The parish of Batiscan is situated on the north shore of the River St. Lawrence, 60 miles above Quebec, and 21 miles below Trois-Rivières. Its population is 1,290.

The wharf, built in 1864, had been bought from the Canada Steamship Company, and it was decided to erect a concrete superstructure. The work was awarded to Messrs. G. A. Gruninger and Joe M. Dalton, under contract by unit measurement as per schedule of prices. Work was started on August 27, 1913, but on July 23, 1915, by agreement between these gentlemen and Messrs. Davis Larivière and Reg W. Louthood, the contract was transferred to the latter, which agreement was authorized by an Order in Council.

The wharf, which is 237.2 feet front length and 31 feet in width on the eastern side and 31·8 feet on the western side, has an approach of 104 feet in length by 110 feet in width, composed of earth filling protected by a stone rip-rap.

During the last fiscal year, 42 per cent of the whole work was performed, including a caisson 57 feet by 36 feet by 15 feet, which was sunk at the western end; also 280 lineal feet of concrete walls were completed, with stone and earth filling.

The total expenditure to date is $29,632.63.

Dredging.

The Batiscan dredging, undertaken to obtain a 12-foot depth, consists in cleaning up the upstream and downstream approach channels to the government wharf, on the St. Lawrence river, in order to facilitate the Royal mail steamships, plying between Montreal and Quebec, to stop and deliver freight and mail; the length of the channel being 4,200 feet. The dredging was performed by dredge *No. 116*, starting on June 25 and completing on October 30.

122,149 cubic yards were removed. The area of dredging was 1,204,750 square feet, for a channel 300 feet wide with a depth of 12 feet.

Previously, in the spring, the same dredge came to Batiscan to prepare the berth of a cribwork, to be placed under the concrete superstructure of the south-western portion of the government wharf under progress at that time. This dredging was commenced on May 10, and discontinued on 22.

7,470 cubic yards of material were removed.

BEAUPORT.

Dredging.

Beauport is situated in the County of Quebec, on the north shore of the River St. Lawrence, approximately 3 miles below Quebec. Population, 4,000.

The channel, 4 feet above low-water level, for the use of schooners, which was started in 1914 was completed this season. The work performed, in pursuance of their contract, by the W. J. Poupore Co., between 11th May and 21st October, 1915, consisted in the removal, over an area of approximately 148,000 square feet, of 38,802 cubic yards, scow measurement, or 25,983 cubic yards, place measurement, of mud, sand and clay. Expansion factor 50 per cent. The high expansion factor is due to heavy liquid mud backfilling. Contract price, 30 cents per cubic yard. Amount paid to contractor in 1915, $7,794.90.

BELŒIL STATION.

Belœil station, part of Belœil village, a post village, in Verchères county.

The Belœil booms, placed by the department in order to facilitate the passage of boats and barges through the Grand Trunk Railway swing bridge, over the Richelieu river, were maintained in good condition at an expenditure of $133.59.

BERSIMIS.

Bersimis, Saguenay county, situated on the north shore of the river St. Lawrence, some 56 miles below Tadousac, is a meeting place for fur traders, and an important station of the Hudson Bay and Revillon Brothers Co's.

Population about 250 inhabitants.

During the present fiscal year, a new wharf was built at a cost of $1,908.54; it is a pile construction, of 150 feet long by 20 feet wide, with a headblock of 20 feet by 30 feet, standing in 7 feet of water at E.L.W.

The materials were purchased during the previous year.

The work was carried out by day labour started August 9 and was completed September 30.

BERTHIER (EN BAS).

(This work is described in the annual report for 1915.)

The village of Berthier, in the County of Montmagny, is on the south shore of the St. Lawrence, 29 miles below Quebec.

The repairs made to the wharf at Berthier (en bas), during the present fiscal year were the following:—

The face-timbers on the west side of the wharf were sheathed with red birch, 6 inches thick on a length of 325 feet, by a height of 18 feet.

The flooring and stringers were renewed on a surface of 6,000 square feet; 175 feet of capping-pieces were renewed; four broken mooring-posts were replaced, with also four elm-fenders, 25 feet long by 12 by 12 inches, and the stairway on the west side of the wharf was thoroughly repaired.

The work was commenced on 21st June and completed on 21st July, at a cost of $1,486.39.

BERTHIERVILLE.

(This work is described in the annual report for 1914.)

Berthierville, a thriving river port, an incorporated town in Berthier county, on the shore of the St. Lawrence, and a station on the Canadian Pacific Railway.

The sewer pipe, passing through the wharf property, was renewed at a cost of $42.78.

BOUCHERVILLE.

Protection wall.

Boucherville, an incorporated village in Chambly-Vercheres county, prettily situated on the south shore of the St. Lawrence and on Quebec, Montreal and Southern Railway.

The protection wall, constructed last year on a length of 550 feet, was extended to a length of 900 feet.

The work done this year consisted in the erection of a dry-stone handlaid wall, 350 feet long, 12 feet mean height, 6 feet thick at base and 3 feet thick at top.

The inside of the wall was filled in with earth to the level of the street.

The work was performed by day labour at a cost of $1,956.89.

Wharf.

The wharf, being in a dilapidated condition, was razed down to the water level and rebuilt in concrete, entailing the construction of a concrete wall 18 inches thick at base, 12 inches at top, a mean height of 10 feet around the sides of the approach and headblock, also the laying of a concrete flooring 3 inches thick and some minor improvements including cap-piece, mooring-posts, sidewalk, etc.

This wharf has the following dimensions. (a) Approach, 172 by 21 feet. (b) Headblock, $70\frac{3}{4}$ by 24 feet. The work was done by day labour at a cost of $4,795.74.

BRYANT'S LANDING.

(This work is described in the annual report for 1915.)

Bryant's wharf is situated on the west side of Lake Memphremagog, five and a half miles by water and eight miles by road from Magog, the nearest railroad station on the through-line of the Canadian Pacific Railway.

On May 7, 1915, authority was received to expend forty-five dollars ($45), by day labour, at that place.

Work of repair was commenced on June 10 and carried on intermittingly to June 29, 1915, and consisted in resetting the fence on both sides of the right-of-

way from the wharf to the main road; the right-of-way was also graded with gravel at the same time.

In the execution of the above work 20 loads of gravel were used. Expenditure was $45.

CACOUNA.

Cacouna is situated on the south shore of the St. Lawrence, in the County of Temiscouata, 120 miles below Quebec. It is one of the best known and most frequented summer resorts of Canada.

Spring tides rise 19 feet, neaps 12 feet.

The work done during the present fiscal year consisted in the following: The pavement, starting from about 200 feet from the shore end, was renewed upon a length of 846 feet by a width of 26 feet, with spruce deals 3 inches thick.

Most of the stringers were renewed, using about 2,264 lineal feet of spruce, nine inches square.

The spruce sheathing on the north side of the wharf was replaced, on a length of 450 feet, on a mean height of 12 feet, with deals three inches thick.

The railing on the north side of the wharf, damaged by ice, was renewed, upon a length of 150 feet, and painted.

Some repairs were also performed on the landing-slip.

These works were carried on during the months of June, July, August, September and October, at an expenditure of $2,461.93.

CAP-A-L'AIGLE.

Cap-a-l'Aigle is situated in the County of Charlevoix, on the north shore of the River St. Lawrence, 86 miles below Quebec. Population, 1,200.

During the past season, repairs were effected to the roof of the shelter on the wharf. The roof, the shelter and posts were given one coat of paint.

Work done, by day labour, between 1st and 6th of August, 1915.

Total expenditure for fiscal year, $144.51.

CAP DE LA MADELEINE.

Cap de la Madeleine is a parish on the northern bank of the River St. Lawrence, east of the St. Maurice River outlet.

A government wharf and an approach were erected in 1887.

In 1913, on account of the development of industrial trade in the neighbourhood, an extension was placed under contract, for 145 feet in front of the government wharf, 200 feet on the southern face, 160 feet on the northern face and 127 feet on the eastern face. This work was paid for, at unit measurement, as per schedule of prices.

During the last fiscal year, a crib was sunk at the eastern side, 127 feet in length, giving a total yardage of 2,280 cubic yards of cribwork, and the complete extension was levelled to elevation, plus 12 feet, which required 4,355 cubic yards of earth filling; a layer of macadam was placed on the wharf, and the whole construction was accepted on November 23 last.

The expenditure incurred for the whole work is $73,158.55.

CAP ST. IGNACE.

The village of Cap St. Ignace is situated on the south shore of the St. Lawrence, in the County of Montmagny, forty-six miles below Quebec.

The Parish, population about 3,000, contains several large stores, saw-mills and a textile factory.

The trade in farm produce is very active, and there is also a considerable lumber traffic.

During the fiscal year 1915-16, the flooring of the wharf, upon a length of 700 feet and a width of 20 feet, which was altogether worn out, was completely renewed.

A few stringers which were decayed were also replaced.

The work was done during the months of June and July, and the total expenditure was $997.10.

CARLETON.

Carleton, Bonaventure county, is situated on the north shore of the Baie des Chaleurs.

It is a large and important farming settlement, also a summer resort of considerable renown. A tannery and several lumber mills and grist mill are located in Carleton.

During the fiscal year 1915-16, protection wall was constructed alongside the beach, to protect the road from the action of the sea.

The work done consists of 420 feet long of continuous cribs, built with cedar and loaded with stone and gravel; the cribs are 10 feet wide, 5 feet high.

Expenditure for this fiscal year is $688.31.

CAUGHNAWAGA.

Caughnawaga, or Sault St. Louis, is a post village in Laprairie county, 10 miles west of Montreal, or 15 miles east of Beauharnois. Population, 2,300.

The public wharf, built in 1908, consists of a stone-filled close-faced cribwork, 149 feet long by 11 feet wide, with 40-foot return wing at each end. This wharf is extensively used for the accommodation of a ferry-boat to Lachine, on the opposite shore, and for the total output of a crushed stone-plant.

Minor repairs were done by day labour to the face timber, flooring and stone-approach, at a cost of $298.07.

Dredging.

The object of this dredging is to facilitate access to the Montreal Quarry wharf, by barges drawing 6 and 7 feet.

Traffic: The Montreal Quarry Company expect to ship every day, when their plant is completed, from 1,000 to 1,500 tons of crushed stone, or three barges per day.

From July 21, to September 1, departmental dredge *No. 119* removed some 2,423 cubic yards, scow measurement, of hardpan, in making a 7 to 8-foot channel alongside Grand Trunk wharf. The number of cubic yards, *in situ*, as determined by soundings taken February 1916, is 1,817.

The quantity, place measurement, corresponds with scow measurement, with an expansion factor of 33⅓ per cent. Hours of actual dredging 249½; cut, 15 to 25 feet wide; face removed, 1 to 8 feet; distance advanced, 843 feet, and dumping ground half mile north of main channel.

Dimensions of work done: A channel 275 feet long, along old Grand Trunk wharf, by 25 and 90 feet wide at bottom, the whole to 7 or 8 feet below low-water level.

The site of dredging accomplished is immediately down-stream of Grand Trunk wharf or opposite the government wharf.

During 1912, departmental dredge *No. 3* worked from August 26, to September 12, and removed some 1,082 cubic yards, scow measurement, of hardpan, boulders and stones, in making a 6-foot channel and basin adjoining government wharf.

CEDARS.

Cedars is a post settlement in Soulanges county, on the St. Lawrence river, 3 miles from Cedars Station, on the G. T. Ry., 29 miles west of Montreal and 5 miles from Vaudreuil.

Population is 1,500.

The public wharf headblock, measuring 116 feet 10 inches by 24 feet, built in 1881, was rebuilt from low-water level to a height of 4¾ feet, by day labour, at a cost of $1,725.08.

CHAMPLAIN.

(This work is described in the annual report for 1915.)

Champlain, a post village in Champlain county, is situated on the River St. Lawrence and on the Canadian Pacific railway, fifteen miles below Trois-Rivières.

On the western face of the approach and wharf, the erosion having broken and washed out the wall and filling, repairs were urgent.

A concrete protection-wall, 140 feet in length, was erected on the western side of the approach; on the southwestern corner of the ice-breaker slope eleven piles were driven, to protect the superstructure against further damage during freshets and for this purpose, a layer of concrete, 1-2½-4 was placed inside of the piles.

The total expenditure was $1,117.50

CHATEAUGUAY.

Indian Reserve Lands.

This work is situated near Chateauguay basin, on the east shore of the Chateauguay river. An extensive area of land, in the vicinity of the river and of the railway, was found to have poor drainage facility, except through the lands of the adjoining Indian reserve, which here form a point projecting into the River St. Lawrence, immediately below the outlet of the Chateauguay.

By cleaning and deepening an existing discharge, and by cutting a new one through the reserve lands, it has been possible to find a better outlet for the drainage of the area in question.

The old drain to be re-established was 2,500 feet long; the new one is connected with the old and located across a swamp and through the lowest spot in a ridge which bounds the swamp towards the east. It empties into a bay of the St. Lawrence.

The total distance excavated was 7,320 feet.

The width of the drain at bottom is 5 feet or more, and the width of surface level is 7½ feet or over. The shore is 1·80 feet in the total distance.

The excavated material consisted of black muck, loam, stiff clay, and boulders; quite a number of these had to be drilled and blasted.

The work was done from September 1 to October 15.

Dam across Chateauguay river.

This dam was constructed in 1913, as an experiment with a view to prevent ice shoves and floods at Chateauguay basin, which were of almost yearly recurrence.

It consists of a core of dry stone, with a revetment of concrete 10 to 12 inches in thickness. The dam is on an average 6 feet high, and it holds the water 4 feet 3 inches above low-water level.

In the spring of 1915, it was found to have suffered from the flood. A break of 30 feet was found near the east shore and the the two abutments had been destroyed. The dam itself showed evident signs of being undermined from the lower side.

The work of the 1915 season, has consisted in closing the breach in the concreted portion of the dam, at the same time building a fish-ladder, according to the requirements of the law.

The ends of the dam were rebuilt in dry stone as far as the shore line. These repairs were done by day-work in September and October, 1915. The sum expended was $636.86.

Although the dam itself has been on the verge of destruction, no ice shove, to cause damage, has occurred at Chateauguay basin in the three years 1914 to 1916 inclusive.

CHICOUTIMI.

The town of Chicoutimi is situated on the River Saguenay, it is the head of navigation. The Canada Steamship Co. maintain a daily service during the summer months, it is also the terminus of the Quebec & Lake St. John railway. Its population is about 8,000. The powerful pulp and paper mills in the vicinity are the cause of a very heavy traffic during the whole season.

During the present fiscal year, the approach of the wharf, on a distance of 110 feet by a width of 50 feet, which was an old timber structure, was taken down, filled in with earth 25 feet deep and the surface finished with a layer of broken stone and gravel, 24 inches thick, well rolled with a steam roller; the flooring between the shop and the freight shed, on an area of 60 feet by 85 feet, was taken up and filled in with 3 feet of gravel and earth; the wooden pavements in front of the freight shed, over an area of 9,600 feet, was renewed, also the slip and the sheathing of the west side of the wharf. The northwest block, which is 20 feet by 30 feet, was repaired, a new shed, 30 feet by 30 feet, was built, the roof of the old shed repaired, and a new chimney cap (metallic) placed. The east part of the wharf was raised from 2 to 3 feet, over an area of 12,000 feet; the light, which was furnished by the Chicoutimi Electric Co. at an excessive price, was replaced by a Lister-Brouston plant, the cost of the maintenance of that plant was $164.

The above mentioned repairs, installation of new electric plant and the maintenance of the carpenter and blacksmith shops, cost $7,487.60.

Work started April 1 and suspended March 31.

RANG ST. IGNACE.

Rang St. Ignace is a portion of the parish of Chicoutimi, situated some 2 miles from the town of the same name.

During the present fiscal year, in order to protect public properties against the action of the current of the River Saguenay, a protection bank was built, on a distance of 100 feet, at the cost of $195.62.

It is a common round-timber construction, 8 feet wide by 6½ feet high, sheathed with 2-inch deals and filled in with stone and earth.

The work was carried out by day labour and started December 4 and was suspended December 24.

COMO.

Como, a post village, in Vaudreuil county, situated on the south shore of Lake of Two Mountains, opposite the Indian village of Oka, and on the Ottawa branch of Canadian Pacific Railway, 30 miles from Montreal. It is a landing place of the Ottawa River steamers, and has an Episcopal church and one telegraph office. Population in 1901 was 628.

During 1915, the department undertook two different dredging improvements, at or near Como.

(A) Boyer: The object of this dredging was to facilitate access to Senator Boyer's wharf, and to give a better way out on the north side of said wharf, as there is a landing on both sides.

On July 9 and 10, 1915, departmental dredge *No. 108* removed some 332 yards, scow measurement, of clay and boulders in completing approaches to wharf.

The number of yards, *in situ*, as determined by soundings taken in December, 1915, is 240.

The quantity, place measurement, corresponds with scow measurement with an expansion factor of 33⅓.

Hours of actual dredging 15½; cut 20 feet wide, face removed 2·6 feet, distance advanced 128 feet, and dumping ground ½ mile downstream.

The dimensions of work done are as follows: one cut 135 feet long, by 45 wide and average depth 4 feet clear at low water.

The site of dredging performed is some 2,500 feet below Como and Oka ferry, or northwest of Boyer's Point.

The work is completed to the entire satisfaction of interested party.

(B) Como (Ferry): The object of this dredging was to facilitate access on Como side, for two gasolene launches, crossing between here and Oka, making 4 return trips daily.

The traffic carried last year is as follows: about 12,000 passengers, vehicles and general merchandise.

From May 26th to July 14, departmental dredge *No. 106* removed some 5,770 cubic yards, scow measurement, of clay, in completing a 5-foot channel and basin. The number of cubic yards, *in situ*, as determined by soundings which were taken in December, 1915, is 4,336.

The quantity, place measurement, corresponds with scow measurement, with an expansion factor of 33⅓ per cent; hours of actual dredging, 260; cut, 7 to 32 feet wide; face removed, 1·5 to 7 feet; distance advanced, 1,851 feet; and dumping ground within one mile 1,500 feet downstream of entrance ferry channel, in Lake of Two Mountains.

Dimensions of work done during 1915: a channel 940 feet long by 25 feet wide at bottom, and a basin, 375 feet by 50 feet along shore, the whole to a depth of 5 feet below extreme low-water level.

The site of dredging accomplished is 6,000 feet downstream of Como wharf, or at the extremity of road leading to railway station (Canadian Pacific Railway.)

During 1911, the department deepened approaches to the landing, close to shore, 500 feet long by 25 feet wide, material had been deposited both sides of cut. In 1912, dredge *St. Louis* worked here, removing part of material cast over, left the preceding autumn by same dredge. Quantity of material removed in 1912 was 2,875 cubic yards, scow measurement.

The work is completed to the entire satisfaction of interested party.

COTEAU DU LAC.

Coteau du Lac, or St. Ignace, is a thriving village on the St. Lawrence, 3 miles from Coteau station, on the Grand Trunk railway, 36½ miles southwest of Montreal.

The public wharf built in 1889 has the following dimensions: (a) Approach 78 by 21 feet and 39 by 45 feet; (b) headblock 100 by 20 feet 8 inches by 13 feet 5 inches; (c) shed 45 by 27 feet.

The headblock was totally rebuilt from low water level by day labour, at a cost of $1,123.34.

D'AUTRAY.

D'Autray is a small village, at the northeastern extremity of the parish of Lanoraie, some 4½ miles south of Berthierville. It contains 1 saw-mill, 1 grist-mill, store and post office.

The object of this dredging was to give a landing to the important lumber, hay, oat and potato trade of the locality, also crushed stone in connection with a new road.

Traffic: Some 650,000 feet b.m. of lumber, 500 tons of hay, 3 scows of oats, 2 scows of crushed stone and 3,000 bushels of potatoes.

From May 17 to July 19, departmental dredge *No. 119* removed some 11,484 cubic yards, scow measurement, in making an 8-foot basin. The number of cubic yards, *in situ*, as determined by soundings which were taken March 16, is 8,615.

The quantity, place measurement, corresponds with scow measurement, with an expansion factor of 33⅓. Hours of actual dredging, 355¾; cut, 15 to 20 feet; face removed, 1 to 8 feet; distance advanced, 2,100 feet; dumping ground one mile downstream, south of Berthier channel, close to the upstream end of Ile aux Foins. ,

Dimensions of work accomplished: a basin 350 feet along outer face, 150 feet along shore by 100 feet deep, the whole to 8 feet at low-water level.

The site of dredging done is immediately upstream, at St. Joseph river, opposite E. Valois' property, some 300 feet from public road.

Owing to the fact that the site is not exposed to storms, and there being nearly no current, the probable duration of the improvement will be over 15 years.

During 1913, departmental dredge *No. 103* dredged out some 4,485 cubic yards scow measurement, at outer end of basin.

In 1914, departmental dredge *No. 103* worked here, removed some 1,584 cubic yards scow measurement. The total number of cubic yards scow measurement removed from 1913 to date is 17,553 of clay.

DESJARDINS.

Desjardins, Pontiac county, is located on Allumette island, north shore of Ottawa river, opposite the town of Pembroke, Ont., with which point there is a regular ferry-boat service and interprovincial traffic.

A public wharf was built in 1904-05; the landing-head was extended the following year and considerably improved a year ago; in 1911-13, a layer of planking was placed over the original flooring of the approach.

During the past year, repairs consisted of renewing the wharf-capping of the wooden approach and gravelling the stone approach in August; in March, the landing-head, 120 lineal feet, 7 to 9 feet above L. W. L., was sheeted with 6-inch timber.

Expenditure during the fiscal year, $698.63.

DESCENTE DES FEMMES.

Descente des Femmes, Chicoutimi county, situated on the north shore of River Saguenay, some 27 miles below Chicoutimi town, is a telegraph and post office village, with an important saw-mill. Its population is about 25 families, engaged in farming and lumbering.

During the present fiscal year, the head-block, which had settled down, was raised two feet, the slip was renewed on the full length and width of the wharf, freight shed, cap pieces, and mooring posts painted, at a cost of $1,499.81.

The work was carried out by day labour, started June 24 and was completed November 13.

D'ISRAELI.

D'Israeli, is an incorporated village and parish in Wolfe county, on the St. Francis river, at the head of Lake Aylmer; a station on the Quebec Central railway between Quebec and Sherbrooke.

Work of repair was commenced on June 17 and completed on July 31, and consisted in renewing four tiers of face-timbers around the head-block, removing the wooden flooring and replacing same by stone and gravel, sheathing the southeast and northeast faces of the head-block with two-inch plank, widening, by four feet, the crib and stone approach, and replacing the old wooden bridge by a steel and wood bridge.

During the fiscal year the expenditure was $2,174.41.

DOUCET'S LANDING, OR STE. ANGELE DE LAVAL.

Ste. Angele de Laval, Nicolet county, is a post village on the south shore of the River St. Lawrence, directly opposite Three Rivers, communication is made by the branch line of the Grand Trunk Railway with the Quebec, Montreal and Southern Railway, at St. Gregoire, with the Intercolonial Railway at Acton Junction, and the Grand Trunk Railway through-line, from Montreal to Quebec, at Victoriaville.

The population of Ste. Angele de Laval village is about 800 and that of the county about 26,000, which is all tributary to Three Rivers.

Dredging was performed by departmental dredge *No. 116,* attended by tug *Monitor.* The work was commenced on May 24, 1916, and continued until June 9, and consisted in the removal of 13,680 cubic yards, scow measurement, of class B material, that is of hard cemented boulders, clay, gravel and sand.

The object of this work is to provide a safe landing to the ferryboat *Progress,* making trips between Three Rivers and the south shore. The whole project has not been completed, the dredge having been available only a short time, however, the work done during those few days has been appreciated, allowing the boat to land at the Grand Trunk wharf without any danger. It is anticipated that when the whole project is complete, the boat will be able to land at the wharf without danger, even during the heaviest storms experienced at that place, and it is probable that there will be very little filling-in, owing to a diversion of the current by dredging the point of the shoal at the east side of the work.

EAST TEMPLETON.

East Templeton, a village in Wright county, is located on the north shore of the Ottawa river, 7 miles below Ottawa. The Canadian Pacific Railway has a station 1½ miles back from the river.

The public wharf was built in 1907, after the old wharf, used by the Ottawa River Navigation Company, and a free site had been vested in the Crown.

During the past season, repairs to the wharf, November 8 to 17, consisted in replacing corrugated iron-sheeting on lower shed and three broken braces, repairing broken sheeting on ice-breaker and replacing waling between two pile bents. To relieve the strain, the ice was cut around the wharf toward the end of March.

Expenditure during the fiscal year is $69.59.

ECHAFAUD AUX BASQUES.

Echafaud Aux Basques, Saguenay county, is a shelter for schooners in the coasting trade, situated 9 miles from Ste. Catherine bay.

The sum of $250 was expended during the present fiscal year to continue the removal of boulders in the bay.

The object of this expenditure is to permit schooners loading with timber to approach the coast.

The work was carried out by day labour, started August 27 and was suspended September 14.

ESCOUMAINS.

Les Escoumains, in the County of Saguenay, is situated on the north shore of River St. Lawrence, 27 miles below Tadoussac. It is a very important place, and a lumber centre.

During the present fiscal year, to repair damages caused by the storm of November, 1914, the sum of $1,071.74 was expended in taking down the broken part of the wharf to low-water level, for a distance of 200 feet, by the full width of the wharf.

The work was carried out by day labour, started July 25 and was suspended August 30.

FABRE.

Fabre, in Pontiac county, is an agricultural centre, with a population of 1,000, located on the east shore of Lake Timiskaming, 11 miles south of Ville Marie.

In 1905-07, a small public wharf was built, was extended in 1910-11, and again in 1912-14 rebuilt to a higher elevation at that time to meet conditions of storage on Lake Timiskaming. Various improvements have been made since 1907, in connection with repairs and maintenance of this structure, which handles a growing traffic.

During the past year, repairs were made to the flooring, handrailing, shed and stone approach, and it was necessary to cut the ice away from braces of pilework when R.W.S. was lowered.

Expenditure during the fiscal year, $125.

FATHER POINT.

Father Point, County of Rimouski, is situated on the south shore of the St. Lawrence river, six miles below the town of Rimouski. It is the place where the steamer lines call to take and land their pilots.

There is a powerful compressed-air fog horn, an acetylene-gas lighthouse and a Marconi wireless-telegraph station.

The work done during the present fiscal year consisted in the renewing of the pieces of sheathing broken and torn by the storms of November, 1914, and fall 1915; on the east side of the wharf, a portion of the planking was repaired and part of the sheathing broken under the low-water-tide line, was replaced.

Expenditure during the fiscal year is $1,402.11.

FORT WILLIAM.

Fort William is a village and a summer resort in Pontiac county, on the north shore of the Ottawa river, 14 miles west of Pembroke. Population in vicinity 800.

A public wharf was constructed at this place in 1911-12.

In July, 16 to 27, the wharf, which had suffered heavy blows from the passenger boat during wind storms, was repaired. The work consisted of setting back and strengthening piles, replacing broken braces and walings, some replanking and painting shed.

Expenditure during the fiscal year, $200.

GASPÉ.

So as to meet the demands for traffic, a shed 288 by 43 feet was built on the shore-end of the Gaspé deep-water wharf after reinforcing the top structure with tie rods.

A pile trestle of 110 feet was built for the railway track inside of the shore-end corner of wharf.

Expenditure for the fiscal year is $7,921.81.

GATINEAU RIVER.

Bank Protection.

The Gatineau river, in Wright county, flows south, emptying into the Ottawa river one mile below Hull.

The erosion of the east bank of this river, below the Canadian Pacific railway bridge, was doing considerable damage and destroying valuable land. To check this erosion, the construction of riprap slope-walls was commenced in 1913, and continued in 1914, along the bank of government property acquired some years ago from Dr. Graham.

During the past year, it was necessary to maintain 500 lineal feet of booms owned by the department and stretched along the shore for temporary protection of the more exposed portions of the east bank of the river. The string of booms, drawing nearly 3 feet, is used to hold, temporarily, during the early rise of the river, submerged fascines, to offset the undermining currents. Experience shows, however, that erosion, at this point, can only be checked properly by slope-walling.

Expenditure during the fiscal year, $99.50.

GEORGEVILLE.

Georgeville is an incorporated school municipality on the east side of Lake Memphremagog, eleven miles by road from Magog, the nearest railroad station.

Work of repair was commenced May 30 and completed June 2, and consisted in reshingling the roof of the freight shed and waiting room and driving two pile fenders on the southwest corner of the wharf, at a cost of $87.35.

GRAND ENTRÉE.

Grand Entrée is the business and shipping port of Coffin island, situated at the northeast end of the Magdalen island group. The population fluctuates as fishermen from all the other islands make it their headquarters in the fishing season, especially at the time of the mackerel fishing, and may vary from 500 to 1,000.

The shipping varies from a value of $30,000 to $100,000, two-thirds being exports, mainly fish, and one-third imports, general merchandise.

The proposed dredging for the fiscal year 1916-17 at entrance of harbour, down to 15 feet below L.W.L., giving an average depth of 3 feet to be removed, that is some 20,0000 cubic yards of sand, at 30 cents per yard, making a total of $6,000, is to allow the mail steamer *Lady Sybil* to come in and out with more ease and safety and to widen the harbour, giving an additional area of 150,000 superficial feet so as to afford anchor room to schooners and other vessels. There will be no castover. The material can be dumped in sheltered lagoons opposite Grosse Ile, two miles away from site of work.

In the latter part of the season, i.e., in October and November, the departmental dredge *No. 4* cleaned an area of 91,000 square feet, giving 10,000 cubic yards of material removed.

The quantity removed, as shown by dredge captain's reports, is 16,770 cubic yards. The difference is accounted for by filling-in.

GRAND RUISSEAU.

Grand Ruisseau is a small fishing cove in the municipality of Rivière au Renard where some half-dozen fishing smacks land and cure their fish.

One half-dozen boulders were removed at a cost of $30.

GRAND MECHINS.

Grand Mechins, also called St. Edouard des Mechins, in the County of Rimouski, is situated on the south shore of the St. Lawrence river, 30 miles below Matane, there is a population of 1,000, mostly of fishermen and lumbermen.

Practically the only communication with the outside world is by water. Mechins is a very fine harbour, much frequented by small vessels looking for shelter.

During the fiscal year 1915-16, the work done consisted in the sinking, on the north side of the wharf, of a crib, 100 feet long by 15 feet wide and 24 feet high, to protect the wharf damaged by the storm of November, 1914, and to prevent further damage.

The crib is fully ballasted but only temporarily planked on top with round spars.

Expenditure for the fiscal year is $3,724.10.

GRANDE RIVIÈRE.

(This work is described in the annual report for 1915.)

Grand Rivière, County of Gaspe, is the name of an important fishing centre, some twenty-one miles southwest of Percé.

Last spring, the roadway leading from the main highway to the government wharf having been carried away, a sum of $2,402.24 was spent to build up a timber facing for a total length of 610 feet. A sum of $2,137.20 was spent towards extending the concrete sheathing on the inside face on a total length of 103 feet.

Expenditure for the fiscal year is $4,539.44.

GRENVILLE.

Grenville, population 1,200, a village in the County of Argenteuil, is located on the north shore of the Ottawa river, about 58 miles below the city of Ottawa.

Departmental dredge No. *103* worked at Grenville from May 12 to June 12, making some 400 lineal feet of single cut, to shallow grade, through clay, boulders, gravel and hardpan, to provide a log-slip to the jack-ladder of Grier's stave mill. Considerable blasting had to be done in removing the larger boulders. The slip, 20 to 25 feet wide in bottom width, extends some 340 feet inshore from the concrete wharf at the head of the Grenville canal. Six hundred and twenty-seven yards material, removed in scows, plus 2,791 yards material, cast over. From surveys before and after, the material measured in place is about 1,800 cubic yards, showing a very large expansion factor, owing to the nature of the work.

GROSSE ISLE.

Quarantine Station.

(This work is described in the annual report for 1915.)

Grosse Isle is situated in the St. Lawrence, some 30 miles below Quebec and 6 miles from the south shore.

During last winter, the eastern wharf was damaged by ice, the hardwood sheathing and face timbers near the outer end on the east side, some distance above low water mark, were broken by ice, on a surface of 12 by 6 feet, leaving an opening through which the stone ballast was pouring out. In order to close that opening, it has been necessary to remove the stone ballast as far as the level of the damaged timbers. The face timbers and hardwood sheathing have been renewed on a length of 20 feet and a height of about 6 feet and secured to new inside vertical posts with iron screw bolts, after which the stone ballast was replaced.

Some other repairs were also performed on the wharf to the hardwood sheathing and flooring. The stairway on the west side of the wharf was also repaired and the capping-pieces renewed on a length of 100 feet.

The sum of $1,000 was expended to cover the cost of these repairs. The sum of $200 was expended to make some repairs and improvements on the western wharf, making a total expenditure of $1,200.

Dredging.

In order to improve conditions on both sides of the eastern wharf, in providing a minimum depth of water of 8 feet at extreme low-water spring tides, the departmental dredge *Ottawa,* between the 14th and 20th October, 1915, made the necessary improvements. The object of the work was to permit the steamer *Alice,* doing quarantine service, to draw near the wharf and stay at either side at any stage of the tides, so as to be sheltered whenever necessary. On the west side of the wharf, the dredging could not be carried on as near the shore as was intended, and the

desired depth of 8 feet could not be reached upon the whole area, rock being encountered at about midway of the proposed berth.

The material removed was silt and clay and the quantity excavated was 2,662 cubic yards, scow measurements.

The area dredged over was 14,300 square feet, and the average depth of cut 4 feet, giving an expansion factor of about 30 per cent.

The work as done is satisfactory, and will stand good 3 or 4 years.

HARRINGTON.

Harrington is situated on the Canadian Labrador, about 660 miles from Quebec. The village has a population of about 60 families, there are two Protestant churches and one hospital.

At the last session of Parliament, the sum of $3,000 was voted towards the construction of an extension to the wharf.

The inspector reports that the work was completed but it is impossible to make an inspection before June next. If the work has been carried out according to plans furnished, it is a head-block of common round timber construction, 30 feet square and 20 feet high, spanned over the old portion of the wharf, with stringers and 3-inch deals.

Work started September 1 and was completed January 29. The work was carried out by day labour at a cost of $2,335.40.

HIGH FALLS.

High Falls, a village in Labelle county, is located on the east shore of the Rivière du Lièvre, 26 miles above Buckingham, and is on the portage route for water-borne freight transferred from boat landings above and below the falls of the same name.

In 1908, small float-landings were built, at the foot of navigation above High Falls, and at the head of navigation below High Falls; these have been a source of annual expense. In 1915, the landing below High Falls was replaced by a rough cribwork wharf.

In order to better meet the requirements of shippers the High Falls wharf was improved, July 1 to 17, and, as the structure later settled, it was necessary toward the end of March to raise slightly the high-level landing.

Expenditure during the fiscal year, $121.61.

HUDSON.

Hudson, a post village in Vaudreuil county, on the River Ottawa and on the Canadian Pacific railway, 9 miles from Vaudreuil and thirty-five miles from Montreal.

The public wharf built in 1902 consists of a close-faced cribwork, 120 by 19½ feet, a stone approach, of a length of 126 feet from the shore to the headblock, by a width of 25 feet for the first 87 feet from the shore, and a width of from 25 to 65 feet, for the remaining 39 feet, with sloping sides of 1 in 1 and guard railing. A store house, 18½ feet by 24 feet, is erected at the western angle of the approach and headblock, partly on the stone approach, and partly on piles.

Minor repairs were done to the northeast corner of wharf at a cost of $151.46.

HULL.

Hull, a city in Wright county, is located on the Ottawa river, opposite the city of Ottawa. It possesses valuable waterpowers, used extensively in the development of electricity and the manufacture of pulp and paper, etc.

A permanent wharf was built in 1901-03. Minor improvements and repairs have been required, from time to time, to keep the structure in shape for the growing traffic handled at this point.

During September and November, a new veranda on the second floor of freight-shed was built with stairway and railing as well as a new sliding door. Some window panes were also replaced and galvanized sheeting on the high level landing side of shed was repaired.

Expenditure during the fiscal year, $120.27.

ILE AUX COUDRES.

Ile aux Coudres is situated in the County of Charlevoix, on the River St. Lawrence, about 62 miles below Quebec. Population, 1,500.

During the past season, the entire flooring of the wharf, covering approximately 1,000 square yards, was renewed. This work included the renewal of floor-stringers and of some face-timbers, longitudinals and cross-ties. Over 700 lineal feet of coping and 10 mooring-posts were put in position. Over 120,000 feet board measure of spruce of all dimensions were used in the execution of those repairs. 100 cubic yards of stone fill were distributed where most necessary.

Work done by day labour from 17th May to 20th October, 1915.

Total expenditure for fiscal year, $3,883.56.

Removal of boulders.

During the past season, a harbour on the south side of the island, opposite the church, was cleaned of dangerous boulders, in order to make it safer for schooners using it. Approximately 80 big boulders were blasted and removed.

Work done by day labour from 15th September to 7th October, 1915, at a cost of $252.80.

ILE PERROT SOUTH.

(This work is described in the annual report for 1915.)

Ile Perrot South, a post village in Vaudreuil county, 3 miles from Ste. Anne de Bellevue, and 21 miles west of Montreal.

During the year, the closefaced headblock was constructed on the shore and a scow built to carry the material.

The dredging being partially completed on November 1 last, the headblock was launched, sunk in place, built to a height of 7 feet above low-water level, and filled with stone for a height of 12 feet. Half of the flooring was finished and ¾ of the stone approach was completed.

This work was done by day labour, under the foremanship of A. Lalonde, at a salary of $3.00 per day.

Expenditure, $5,027.62.

ISLE VERTE.

The village of Isle Verte, in the County of Temiscouata, is situated on the south shore of the St. Lawrence, 16 miles below Rivière du Loup, and 130 miles below Quebec.

Spring tides rise 19 feet, neaps 12 feet.

The renewing of the superstructure of the wharf, begun three years ago, was continued during the fiscal year and a length of 160 feet near the outer block, by a width of 22 feet, and a mean height of 12 feet, was altogether renewed from top to bottom. All the stone-ballast was removed and every piece of timber was replaced. To keep the wharf open to the public, a temporary flooring on trestles was built along the east side of the wharf on a length of 200 feet. The flooring upon the head of the wharf has been repaired on a surface of 17,600 square feet. It was requested by the owners of the land in the vicinity of the wharf, that a ditch be cleaned and put in a state of

efficacy for the drainage of the land, and the balance of the money available, about $50, was used to do the necessary work.

These works were performed by day labour during the months of July, August and September, and the total expenditure was $4,499.99.

Dredging.

Navigators having complained that the bottom, near the wharf, on the west side was too high, and prevented them from drawing their schooners near the wharf except at high tides, the sum of $991.95 was expended in dredging to improve conditions. Dredging was performed over an area of 14,500 square feet, and the mean depth excavated was two feet.

The quantity of material removed amounted to 918 cubic yards, place measurement, and consisted of silt and soft clay.

The expansion factor would have been about 25 per cent.

The work, which was commenced on 24th September and completed on 14th November, 1915, was done by shovelling the mud into scows at low tide and removing same at high tide.

KAMOURASKA.

The village of Kamouraska, in the county of the same name, is situated on the south shore of the St. Lawrence river, 90 miles below Quebec; it is a well known place, much frequentel as a summer resort

Its population is about 1,500.

During the fiscal year, some urgent repairs were made to the wharf; the flooring was repaired, and six mooring-posts were renewed.

The sum of $99.52 was expended during the months of September and November.

KNOWLTON LANDING.

(This work is described in the annual report for 1915).

Knowlton Landing is situated on the west side of Lake Memphremagog, about 11 miles by water and 15½ miles by road, from Magog, the nearest railway station on the through line of the Canadian Pacific Railway.

The work of repair consisted in removing, from the north corner, the fender which had been destroyed during extreme high water and rebuilding a new one.

In the execution of the above work, 800 feet of timber and some iron were used, at a cost of $50.

LANORAIE.

(This work is described in the annual report for 1915).

Lanoraie, a post village and parish in Berthier county, on the north shore of St. Lawrence river, 5½ miles from Lanoraie Station on Canadian Pacific Railway and 37 miles north-east of Montreal.

Last winter, the water froze below the bottom of the ice-breaker sheathing and when the water level rose it caused the ice-breaker to be lifted, breaking some of the timber. This was repaired, by day labour, at a cost of $59.38.

LAPRAIRIE.

Laprairie, a town in Laprairie county, on the south shore of the St. Lawrence, and a station on the Grand Trunk Railway.

(*A*) *Dyke—Contract.*

A contract was awarded in January, 1914, to Duranceau & Poupore, of Laprairie, for the construction of a dyke and a roadway thereon on a unit-price basis. Last

fiscal year, the total filling and almost all riprapping were done, a portion of the macadam road, some 1,500 feet long, was constructed and all the stone necessary for the completion of the contract was delivered on site of work.

This year, 700 feet of the 15-inch road-bed was laid, and 2,226 tons of crushed stone were delivered on site of work. Total expenditure for this year, including salary of inspector, is $2,826.47.

(B) Dyke—By day-labour.

A macadamized roadway, 6,500 feet long, was built on the top of the dyke in order to temporarily accommodate the traffic during the spring season. Stones already delivered on the dyke by the contractor were spread, on a thickness of 15 inches by an average width of 15 feet, and covered with crushed stone and screenings to fill the interstices between stones, covered with a layer, two inches thick, and the whole properly watered and rolled. This work was done, by day labour, at a cost of $2,017.

(C) Plank Roadway.

In order to accommodate the traffic during the construction of the dyke, a plank roadway was constructed, in eight days, alongside the dyke, for a length of 6,500 feet.

This roadway is 16 feet wide and consists of 3-inch plank, laid lengthwise, on 8 by 4-inch sleepers laid 3 feet apart. Where necessary a wheel guard, 8 inches high, was built on each side of the roadway. This roadway was widened to 24 feet at the bends, and side ditches were provided. In order to prevent accident at the bridge and at the bends this roadway was lighted at night.

Total expenditure, $14,924.32.

LA SALETTE.

La Salette, population 250, a village in Labelle county, is located on the lower reach of the Lièvre river, 18 miles above Buckingham.

Departmental dredge *No. 102* worked in the boat channel (June 19-23) to ease off the lower entrance and approach to float-landing; 600 yards, scow measure, clay were removed to a grade depth of 10 feet.

During the period, June 30-July 29, the new boat channel on the west side of the river was further improved, to a grade depth of 8 feet, to facilitate navigation through the landslide which occurred some years ago; 9,540 yards clay, scow measure, were removed, in cuts aggregating 1,049 lineal feet. From surveys made before and after this work, the quantity of material removed, place measure, is 7,888 yards; the expansion factor, therefore, is 21 per cent.

LAUZON.

Dredging.

Lauzon is situated in the County of Levis, on the south shore of the River St. Lawrence, approximately 2 miles below Quebec.

In order to accommodate coal barges which formerly berthed in the entrance to the dry dock, now militarily occupied, a basin 110 by 75 feet was dredged, to a depth of 6 feet below low-water level, on the west side of the west-entrance pier, between the 22nd and the 27th of October, 1915, the dredge *Ottawa* removed, over an area of approximately 8,500 square feet, 2,862 cubic yards, scow measurement, of mud, sand and boulders.

LES EBOULEMENTS.

Les Eboulements is situated in the County of Charlevoix, on the north shore of the River St. Lawrence, 66 miles below Quebec. Population, 2,500.

During the past season, a new movable slip was built and put in position, to replace the old one which was so worn out as to have become dangerous. The hard-

wood northeast corner of the headblock, which had been damaged and pushed out of position by ice and boats was replaced, together with 600 square feet of 5-inch hardwood sheathing also pierced and damaged by ice. 25 vertical stringers were placed, to consolidate the upper part of the wharf proper. Minor repairs were effected to the building, the wharf flooring and the macadam.

Work done by day labour from 17th August to 14th October, 1915. Total expenditure for fiscal year, $1,895.23.

LEVIS.

Deep Water Wharf.

Levis is situated in the County of Levis, on the south shore of the River St. Lawrence, opposite Quebec. Population, 7,500.

During the past season La Cie Etienne Dussault completed their contract. This involved, mainly, the erection of the balance of the concrete walls, backfilling and macadam. Value of work done to completion of contract, $388,418.63, and total expenditure for fiscal year, $29,610.88.

L'ISLET.

The village of L'Islet, in the county of the same name, is situated on the south shore of the St. Lawrence, 50 miles below Quebec. It has a population of 2,500, including village and parish.

Spring tides rise 21 feet, neaps 13 feet.

The sum of $81.95 was expended to make urgent, but temporary repairs, to the flooring of the wharf. The work was done during the month of August.

LITTLE BONAVENTURE ISLAND.

Little Bonaventure Island, County of Bonaventure, is situated on the north shore of the Baie des Chaleurs, about 2½ miles from the village of Bonaventure.

It is an important farming and fishing settlement, recently erected into a parish.

The breakwater, constructed there in 1911-12, is 188 feet long by 16 feet wide and 8·5 feet high.

The work done during the present fiscal year consisted in the construction of an extension to the breakwater. This extension is 120 feet long by 15 feet wide and 9·5 feet high, and is completed with the exception of the flooring.

Expenditure for the fiscal year is $597.04.

LONGUEUIL.

Longueuil is a post town, in Chambly-Verchères county, on the south line division of the Quebec, Montreal and Southern Railway. It contains 2 churches (Episcopal and Roman Catholic), 8 stores, 7 hotels, 1 saw-mill, 1 stove factory, 1 branch bank, and express and telegraph offices. The town has drainage system, 2 fine squares and communication with Montreal by train, electric cars and ferry.

Population in 1914, 6,000.

During 1915, the department undertook three different dredging improvements, at or near Longueuil.

(*A*) *Canada Steamships.*

The object of this dredging was to give a better access to wharf and channel, upstream and down-stream, for the new ferry-boat, drawing 9½ feet at low speed and over 10 feet when in full motion.

The ferry traffic between Longueuil and Montreal is very heavy. During the last five years, according to company's books, a total number of 2,918,677 passengers and

312,194 teams were carried from one shore to the other. This represents an average of nearly 600,000 passengers and over 63,000 teams per year. The ferry makes 70 trips daily, from beginning of April to nearly the end of December.

From May 26 to September 17, departmental dredge *No. 110* removed some 50,280 cubic yards, scow measurement, of clay, sand, boulders and hardpan, in making a 12-foot channel and basin in the vicinity of Canada Steamship wharf. The number of cubic yards, *in situ*, is about 30,000. Hours of actual dredging, 630; cut, 12 to 40 feet; face removed, 1 to 5 feet; distance advanced, 17,281 feet; dumping ground 3½ miles down-stream on the northwest shore of River St. Lawrence, or below Racine pier, under the supervision of Montreal harbour commission.

Dimension of work accomplished, 1,500 feet long by 150, and 350 feet wide average, opposite wharf, and clean a few ridges some 3,000 feet up-stream of wharf, the whole to a depth of 12 feet clear at low-water level or 0·0 gauge.

The probable duration of the improvement will be over 40 years.

Since 1911, some dredging has been done by the departmental plants around the Canada Steamships wharf and channel, to accommodate company's boat. The following are the yearly quantities: In 1911, 10,782 cubic yards; in 1912, 18,832 cubic yards; in 1913, 57,792 cubic yards; in 1914, 73,657 cubic yards. Total, 161,063.

(*B*) *Longueuil Garage.*

The object of this dredging is to facilitate the access to the Longueuil garage of numerous gasolene launches and row boats, also to give a 3-foot channel to garage marine railway.

Longueuil garage gives shelter to about 100 yachts and sailing boats, and employs from 10 to 15 men yearly to repair and paint yachts. The garage has a good marine railway, machine shop, etc. Dimensions of garage are 125 feet long, alongside Canada Steamships' line approach, by 88 wide.

From November 10 to 17, 1915, departmental dredge *No. 119*, removed some 845 yards, scow measurement, of clay, sand and gravel, in making a channel alongside Canada Steamship line. The number of yards, *in situ*, is 632.

The quantity place measurement corresponds with scow measurement, with an expansion factor of 33⅓ per cent. Hours of actual dredging, 37; cut, 18 to 20 feet; face removed, 2½ to 5½ feet; distance advanced, 265 feet; dumping ground 3½ miles down-stream on the northwest shore of River St. Lawrence below Racine pier.

Dimensions of work done, 1 cut 125 feet long, alongside Canada Steamship line, by 50 wide at bottom, the whole to a depth of 7 feet.

Owing to the fact that the site is well protected from storm, and absolutely no current, the probable duration of improvement is forever.

To complete the dredging, as requested by the Longueuil garage, will require the removal of 1,370 yards, place measurement, or 1,827 yards, scow measurement, with an expansion factor of 33⅓ per cent, for conversion into scow measurement. Dimensions of work to be done, 1 cut 370 feet long by 25 wide at bottom, to a depth of 3 feet clear at low water.

The dredging must be performed with a gauge not less than 5 feet with side-dumping scows, and a dredge of a light type will complete the work in a working week.

(*C*) *Government Wharf.*

The object of this dredging is to facilitate access to public wharf and basin to the ferry-boat *North* plying between here and Maisonneuve, making a trip every 15 minutes, also to give better landing to boats and barges unloading lumber, sand and stones.

The traffic interested in this dredging is enormous, over 700 passengers, 80 vehicles and 40 automobiles are carried from shore to shore by ferry-boat *North* every day, besides 20 or 30 barges that unload here yearly.

From 18th May to 25th, departmental dredge *No. 110,* removed some 3,280 yards, scow measurement, of clay, sand and boulders, opposite wharf. The number of cubic yards, *in situ,* is 2,460.

The quantity, place measurement, corresponds with scow measurement, with an expansion factor of 33⅓ per cent. Hours of actual dredging, 40½; cut, 37 to 40 feet; face removed, 2 to 3 feet; distance advanced, 679 feet; dumping ground 3 miles downstream, on the northwest side of River St. Lawrence, immediately below Racine pier.

Dimensions of work performed during 1915, one cut 650 feet long by 40 wide, outer end of wharf, and some 300 feet northwest from face of wharf.

The probable duration of the improvement will be over 30 years.

During 1913, departmental dredge *No 110* took out some 99,267 yards, scow measurement, in making an up-stream channel, leading to basin alongside wharf.

During 1914, dredge *No. 115* removed some 12,851 yards, scow measurement, and the same year dredge *No. 110* removed some 12,045 yards, scow measurement, in making a 12-foot basin, up-stream of government wharf.

To complete, as originally proposed, will require the removal of 11,760 yards, place measurement, or 15,680 yards, scow measurement, with an expansion factor of 33⅓ per cent. Material, clay, sand and boulders. The dimensions of work to be done, a 12-foot basin, 200 feet in front of wharf, and 650 feet out, by an average width of 320 feet.

Owing to the cleaning nature of the proposed dredging to complete a 12-foot basin, will take about a working month to a dredge of a heavy type.

LOTBINIÈRE.

During the last fiscal year, the following repairs were performed, in connection with government wharf and property at Lotbinière.

The roadway, leading from public highway to south or shore-end of wharf-planking, a distance of 353 feet, which was in a very bad condition, had to be levelled, raised and rounded off from centre to sides, on a width of 18 feet, from end to end.

Some 155 cubic yards of stone, or 18 scow loads were mixed with about one-half the quantity of sand and laid over the roadway, from 2½ feet thick, in middle, decreasing to six inches on sides.

On east side of government service ground, the lot was fenced in, using for this purpose 238 lineal feet of wire fencing, secured to new 6-inch-square cedar posts, with addition of a 12 foot iron gateway; tie-posts and guard railings, for horses and cattle, protected with flat-iron bars, were placed in premises.

Freight sheds were painted inside and outside, also waiting-room. A new landing stairway was placed on outer end of west slope of wharf. Two broken, upright guard fenders also renewed and a large boulder on east side of wharf, impeding approach, was broken up and removed.

LOUISEVILLE.

Louiseville is situated on the north shore of Lake St. Peter, 21 miles above Trois-Rivières.

The River du Loup (en haut) passes through the town and is navigable from its outlet, for a distance of above 3½ miles, to the government wharf at Louiseville for boats, drawing 4 feet of water, during the low water season.

The population of the town of Louiseville, and five parishes interested in this navigation, is 11,993.

Two wooden pavements were repaired during the last eight months, on an area of 15 feet by 13 feet each. These pavements were located between the boat slips and the shed.

The total expenditure was $39.60.

MAGDALEN ISLANDS BREAKWATERS.

House Harbour.

The landing at House Harbour has been repaired. Piles have been driven along the face and eight tiers of cross-ties and longitudinals replaced, the whole was duly ballasted and floored at a cost of $800.

GRINDSTONE.

An amount of $450 was spent to replace fenders alongside and construct a new slip. Stone ballast has also been placed along side of roadway leading to wharf.

POINTE-A-ELIE.

The roadway leading to the Pointe-à-Elie wharf has been repaired at a cost of $500.

HOSPITAL BAY.

Hospital Bay is a fishing harbour on the northwest side of Grindstone island. The first crib of a breakwater, 24 feet wide by 60 feet long, has been built and secured in position and a new crib partly built.

Expenditure for the fiscal year is $2,500.

GROSSE ISLE.

Grosse Isle is the north-eastern end of the Magdalen islands group of islands in the Gulf of St. Lawrence, some 70 miles west of Cape Breton. As the northeast coast of the island is badly exposed, a breakwater, to form a shelter for fishermen, was decided upon. Two triangular isolated cribs 50 feet wide by 38 feet deep were built and placed in position and a new crib started.

Expenditure for the fiscal year is $4,000.

MALBAIE.

(This work is described in the annual report for 1915.)

Malbaie is a municipality situated on the north side of Malbaie bay; some twenty miles south of Gaspé Basin.

A breakwater, which will be used as a landing pier, was commenced in 1914 and completed during the last six months.

Expenditure for fiscal year is $40,521.78.

MAGOG.

(This work is described in the annual report for 1910.)

Magog is situated at the north end of Lake Memphremagog, on the main line of the Canadian Pacific Railway, from Montreal to St. John, N.B.

Work of repair was commenced on May 25 and completed May 26, and consisted in driving three pile fenders, bolting same to the wharf and fixing the railing along the landing stage on the north side of the wharf at a cost of $44.71.

MALBAIE.

Malbaie is situated in the County of Charlevoix, on the north shore of the River St. Lawrence, 83 miles below Quebec. Population 3,400.

During the past season, the eastern half of the wharf proper, covering an area of approximately 1,500 square yards, was raised with stone to the level of the western half, which was finished last season, and covered, save a strip occupied by the Quebec & Saguenay Railway tracks, with standard macadam. This necessitated the removal

of a number of old floor-stringers and the use of over 800 lineal feet of 12 by 12-inch timber for copings, and renewal of face timbers. Over 1,000 square feet of new flooring were laid on the headblock. A sidewalk 6 feet wide and over 400 feet long, made of 3-inch deals, resting on 10- by 10-inch stringers, were built from shore to headblock. Minor repairs were effected to the building, railings and movable slip and two depressions in the sandfill on western half of the wharf were levelled with stone and gravel.

Work done, by day labour, from 1st June to 20th August, 1915. Total expenditure for fiscal year, $3,860.03.

MARIA.

Protection Wall.

Maria, Bonaventure county, is situated on the north shore of the Baie des Chaleurs about 10 miles from Carleton.

It is an important village of about 2,000 inhabitants. There is a station of the Quebec Oriental Railway, a post and telegraph office and several stores.

In 1912-13, in order to protect the road, alongside the beach, which was being yearly eroded by the action of the sea, 460 feet of protection wall were built in brush-work loaded with stone.

The work done during the present fiscal year, consisted in the continuation of the construction of protection-walls. This work has been done in two parts; in the easterly part of the village of Maria 750 feet have been built to a height of 4·5 feet and a width of 6 feet: in the westerly part 550 feet have been built to a height of 6·7 feet and a width of 10 feet.

Expenditure for the fiscal year is $1,599.04.

MEGANTIC.

Megantic is a town of 4,000 people, situated at the north end of Lake Megantic where it empties into the Chaudière river. It is on the main line of the Canadian Pacific Railway from Montreal to St. John, N.B., 70 miles from Sherbrooke and it is the terminus of the Quebec-Megantic Line of the Quebec Central Railway.

Work of repair was done on November 8 and 9, 1915, and consisted in renewing one castiron mooring-post and regrading the approach at a cost of $12.

MOOSE BAY.

(This work is described in the annual report for 1913.)

Moose Bay is a small settlement about middle way between Piopolis and Woburn near the south-western end of Lake Megantic.

Work of repair was commenced on September 8 and completed September 24, 1915, and consisted in repairing the wooden flooring on the headblock, removing from the crib-approach the wooden flooring and replacing same by a stone and gravel road-bed and in regrading with gravel, the stone-approach, at a cost of $176.57.

MISTASSINI.

Mistassini is situated on the river of the same name, which is one of the tributaries of Lake St. John, and is navigable as far as Mistassini. Population about 800.

During the present fiscal year, the freight shed was repaired, the approach completed, and the lower slip of the wharf extended, at a cost of $699.64.

This extension gives an area of 2,796 square feet, and consists in round timber construction 7 feet front and widening to 36 feet at 20 feet back, the balance of the construction is composed of piles driven into the bottom at every two feet, supporting stringers, and a flooring of 3 inch deals.

The work, which was carried out by day labour, was started July 13 and completed August 15.

MONTEBELLO.

Montebello, in Labelle county, on the north shore of the Ottawa river, 41 miles below Ottawa, is a station on the Canadian Pacific Railway and the centre of farming and lumbering industries.

A public wharf was built in 1911-12.

Necessary repairs to roadway were made in October, part of riprap wall being rebuilt and some earth grading done. Other minor repairs to freight shed and flooring were also made.

Expenditure during the fiscal year, $18.13.

MURRAY BAY.

Dredging.

During the past season, in order to accommodate steam-barges carrying wood pulp, a basin was excavated to a depth of 15 feet below low-water level on the east side of the wharf. Departmental dredge *Ottawa*, working at Malbaie between 14th June and 2nd July, 1915, excavated 6,050 cubic yards, scow measurement, of sand and clay, over an area of approximately 33,700 square feet.

NEW CARLISLE.

New Carlisle, the shire-town of the County of Bonaventure, is situated on the north shore of the Baie des Chaleurs sixty-five miles from Campbellton, N.B.

There are three churches, two hotels, several stores, post, telegraph and telephone offices. It is the terminus of the Quebec Oriental railway, and the starting point of the Quebec and Western railway.

During the fiscal year 1915-16, work consisted in the rebuilding of a portion of the face timber on the west side of the wharf; the slip was also repaired and general repairs were made to the planking and sheathing of the wharf.

Expenditure for the fiscal year is $1,463.62.

NEWPORT.

The village of Newport, in the County of Gaspé, is situated at the mouth of the river of the same name, on the north shore of the Baie des Chaleurs 88 miles east of Campbellton, N.B., and 50 miles west of Caplan.

Spring tides rise 4½ feet, neaps 2½ feet. The population of the village is extensively engaged in fishing. The top of the wharf damaged in the fall of 1914, had to be rebuilt for a height of two feet and some 650 cubic yards of ballast had to be placed in structure which was then floored and sheathed on the outside.

Expenditure for the fiscal year is $1,627.36.

NICOLET.

Nicolet is a thriving village on the south shore of the River St. Lawrence at the foot of Lake St. Peter; it is on the line of the Quebec, Montreal and Southern Railway and on the branch line of the Intercolonial Railway.

Authority was received to build a crib retaining-wall, immediately above the upstream wharf, to protect the right of way. The work consisted in an open-faced crib sheathed on the outside, with two-inch plank and resting on one row of piles, 145 feet long by 10 feet at the bottom, 8 at the top and 10 feet high, and the filling of the back with earth to the level of the road, said work having been started on June 3 was completed on July 21, 1915, at a cost of $775.17.

The greatest part of the material was secured for this construction during the fiscal year 1914-15.

NICOLET.

Dredging.

At the beginning of August, 1915, the departmental dredge *No. 106,* attended by tug *Delisle,* was ordered to Nicolet in order to clean the entrance of the channel at the mouth of the river to the wharf. The water being low at that time of the year, the material dredged could not be loaded on scows and it was decided to make one cut of castover. The work commenced on the 13th August but had to be abandoned on the next day, the sand dredged was flowing in the cut nearly as fast as dug out.

Only 429 cubic yards, approximately, were dredged and this work was abandoned for the season.

NOMININGUE.

Nominingue, on the shore of the lake of the same name, is a village in Labelle county and a station on the Canadian Pacific railway, 124 miles northwest of Montreal. It is the centre of a farming district, with a population of about 600.

In March, 1915, timber, stone and other materials were delivered for the public wharf, which was built during the past season in Baie Richard. Access has been provided for a right-of-way by registered notarial act, executed by the owner of the property for the life term of the public wharf structure. Construction proceeded from May 1 to July 31. The structure consists of round-timber open-face cribwork landing-head, 28 by 32 feet, sheeted on face, drawing 6 feet at L.W.L. of Lake Nominingue and built to an elevation of 5 feet, approach 12 feet wide, 414 feet long, with 3-inch flooring, 6 by 9 capping and 4 by 5 handrailing. The waiting-room, 10 by 12 feet, together with capping and handrailing, received two coats of paint. The earth approach is 12 feet wide and 50 feet long.

Expenditure during the fiscal year, $1,609.23.

NORWAY BAY.

Norway Bay, a small village and summer resort in Pontiac county, is located on the north shore of Chats lake, an expansion of the Ottawa river, opposite Sand Point, Ont., where the ferry-boat service connects with local Canadian Pacific Railway trains.

In 1909, a small temporary wharf was built at this place; in 1911-13, the existing public wharf was built. This structure occupies a location which is exposed to ice-shoves, etc., necessitating more or less regularly, repairs and improvements as well as outlay on maintenance.

During the past year, temporary repairs consisted in placing a brace under one of the pile-bents, at the opening of navigation, and repairing braces and waling, in March, as well as cutting the ice to relieve the pressure on the wharf structure.

Expenditure during the fiscal year, $19.25.

OKA.

A post village on the Ottawa river, near its junction with the St. Lawrence, in the County of Two Mountains, five miles distant (across the Ottawa) from Como, in Vaudreuil county, a station on the Canadian Pacific Railway. It has two churches (Roman Catholic and Methodist), two stores and one hotel, besides telegraph and express offices. Population in 1901, 600.

The object of this dredging was to facilitate the access to Mr. Geoffrion's boat-house.

July 16, 1915, departmental dredge *No 106* removed some 115 yards, scow measurement, of clay, in making a 3-foot channel. The number of cubic yards *in situ,* as determined by soundings which were taken December 1915, is 86.

The quantity, place measurement, corresponds with scow measurement with an expansion factor of 33⅓ per cent. Hours actual work, 5; cut, 25 feet wide; face, 3·2; distance advanced, 40; dumping ground within ½ mile, in lake of Two Mountains.

Dimensions of work done in 1915: one cut 40 feet long by 25 feet wide, average, the whole to 3 feet below low water level.

Site of dredging performed is 3,000 feet up-stream of village of Oka.

The probable duration of the improvements will be 10 years.

This is completed to the entire satisfaction of interested party.

PAPINEAUVILLE.

Papineauville, the shire-town of Labelle county, is located on the north shore of the Ottawa river, 37 miles below Ottawa, and is a station on the Canadian Pacific Railway.

In 1910, the Government acquired the old Chabot wharf and site, later erecting a modern cribwork structure for the boat traffic of this locality. In October, 5 to 26, the handrailing, 367 feet long, the capping, 590 feet long, and freight-shed of the wharf were given two coats of paint, at a cost of $70. In March, minor repairs to the shed and fenders were made.

Expenditure during the fiscal year, $98.64.

Dredging.

The departmental dredge *No. 106* worked at Papineauville, May 10 to 18, to complete the slip to the jackladder at the Papineauville Lumber Company's sawmill and improved the approach to the company's wharf.

An area of some 6,900, superficial feet, was dredged to a grade depth of 6 feet elevation 122.

1,248 yards, scow measure, clay were removed. Combining the work of two seasons, surveys before and after carrying out the improvement, would make the quantity of material removed, place measure, 3,576 cubic yards including 195 yards below sub-grade; the corresponding material removed in the scows was reported as 3,432 yards.

PASSE PIERRE.

Passe Pierre is situated on the north shore of River Saguenay some 6 miles above its mouth.

During the present fiscal year, the sum of $198.50 was expended in removing some boulders which were rendering the access impossible for schooners coming here to load.

The work was carried out by day labour and was started July 18 and suspended July 24.

PERCÉ.

Percé, in the county of Gaspé, is situated on the Gulf of St. Lawrence, 36 miles from Gaspé Basin. The sheathing and fenders on the outside end of the pier for a length of some 150 feet had to be replaced along inside face. The sub-structure was repaired, with the assistance of a diver, with concrete in bags. The top structure having been badly damaged by a heavy storm, temporary repairs were undertaken to protect the shore end, and if possible, prevent further damages to the outside end.

Expenditure for the fiscal year is $1,303.11.

PERKINS' LANDING.

Perkins' Landing is situated on the west side of Lake Memphremagog, about 15 miles south of Magog, and 6 miles from Mansonville, the nearest railroad station.

Work of repair was commenced August 3 and completed August 6, 1915, and consisted in repairing the low-landing stage situated at the west corner of the wharf and in regrading the headblock and approach with gravel at a cost of $28.96.

PICHÉ POINT.

Piché Point, on the east shore of Lake Timiskaming, opposite Haileybury, Ont., is the landing for part of Guiges and other townships. This is a prosperous farming district which supplies the mining region on the Ontario side, and contributes largely to the Haileybury market and bulk-freight shipping at that point.

In 1908-9, a public wharf was built at Piché Point; in 1912-14, the wharf was raised 3 feet, owing to storage development on Lake Timiskaming, and extended considerably on account of the growing traffic.

During the past year, the ice-booms were removed, towed to Haileybury, repaired and replaced in position at the close of navigation; a heavy storm in the early fall dislocated the south ice-breaker, and the materials had to be salvaged; the freight shed-doors were repaired; some planking was done to maintain traffic over the wharf-flooring; saw-cuts were made in the ice to free the booms strung from the ice-breaker to wharf and shore, and the heavy ice was chopped off bracing of approach when water of Lake Timiskaming storage was rapidly drained.

Expenditure during the fiscal year, $198.92.

PIERREVILLE.

(This work is described in the annual report for 1915.)

Pierreville is a thriving village on the eastern side of the River St. Francis, 9 miles from its outlet and 28 miles east of Sorel.

Work of repair was commenced August 23 and completed August 31, and consisted in resetting the west end of the wharf which had been raised at least two feet by the ice in the spring.

The expenditure for the fiscal year is $192.11.

PIOPOLIS.

Piopolis is in Compton county on the west shore of Lake Megantic, and about 11 miles south of Megantic village, on the Canadian Pacific Railway.

The wharf built in 1882-83, is a solid crib wharf filled with stone and topped with gravel. In 1897-98 the wharf was raised 5 feet and generally repaired.

During May and June, 1906, extensive repairs were undertaken; the headblock was repaired from low-water level and enlarged 20 by 20 feet and the approach raised 2 feet.

During the present fiscal year, repairs were commenced September 27 and completed October 12, 1915, and consisted in renewing three tiers of the face timbers around the headblock, repairing the sheathing and the railing on both sides of the approach and repaving with gravel the approach and headblock.

During the fiscal year, the total expenditure was $295.07.

POINTE À COTE.

Bic, on the south shore of the St. Lawrence river, in the County of Rimouski, is an important village and a favourite summer resort. The harbour offers a natural shelter for vessels of small draught.

Spring tide rise 14 feet, neap tide 6·50 feet.

There are two wharfs at Bic; one called the old wharf, which is located on the south of the harbour, and the Pointe à Cote wharf, located at the point of the same name.

The work done at Pointe à Cote during the fiscal year 1915-16, consisted in the clearing of accumulation of sand and gravel in the only opening left in approach from Pointe à Cote to Isle au Massacre to enable small boats to pass through.

Expenditure for the fiscal year is $28.

POINTE À BROUSSEAU.

(This work is described in the annual report for 1915.)

Pointe à Brousseau is the west point of the municipality of Chlorydormes, 190 miles below Matane, on the St. Lawrence river. During the last six months, the crib was launched, brought into position, secured, built and completed and the roadway repaired, extended to main highway and floored for a length of 150 feet at outside end adjoining pier. All the timber that was left at Pointe à Brousseau was barked, hewn and placed on skids to keep it in good condition.

Expenditure for the fiscal year is $2,880.72.

POINTE À PIZEAU.

Two miles west of the city of Quebec, on the north shore of the St. Lawrence, a high bluff, at an altitude of 200 feet, on which is located the church of Sillery, in the village of Sillery, County of Quebec; the Pointe à Pizeau wharf is built on a beach lot, once the property of the municipality of Sillery. In 1898, the municipality transferred to the Dominion Government both beach and water lot in front, also wharf built on it at the time, such as it stood, on condition that the wharf should be enlarged, repaired and thereafter kept in good repair; at the time of transfer it was stated that the depth of water at outer end in low spring tides was 21 feet; whatever may be the cause the present depth does not exceed 15 feet.

During fiscal years 1899 and 1900, certain repairs and additions were made to the wharf, in subsequent years additional repairs were made when needed, but for several years the wharf was neglected and allowed to deteriorate; the slip pontoon is gone, side-sheathing broken or gone in several places, allowed ballast to fall out through the wide openings of 10 to 12 inches of the crib work; flooring and supporting ties collapsing; stairs on west side for accommodation of small vessels and side-ladders gone.

During the fiscal year, the following repairs were performed and the structure strenghtened against further casualties occurring until heavier repairs are made next year.

The shore end, for a length of 165 feet, was thoroughly repaired by removing, on east side, two decayed tiers of timber and replacing them by same quantity of 12 by 12 British Columbia pine, with new capping on top; new 3-inch sheathing of spruce was placed on same length, 165 feet, of east elevation, and some of the old removed sheathing was secured on the inside face timbers of same to keep gravel filling of roadway in place.

On west side of same, inshore-end was a broken up portion of planking, 6 feet wide by 160 feet in length (the remaining width of roadway being of stone, covered with gravel and sand, 15 by 160 feet), the planking in question was renewed, including the ties and stringers, with new timbers; on this same west side some 48 feet in length on full height were temporarily sheathed over with old 3-inch spruce deals, to prevent gravel and ballast from falling out. A permanent landing stair was erected at west outer block on inner angular corner, dimensions 25 feet long, uprights of 6-inch square pine, 4 feet apart, with 3-inch pine steps; a ladder 24 feet long was placed on outer end of block, and some planking on wharf, where dangerous, was removed and renewed.

POINTE AUX ESQUIMAUX.

Pointe aux Esquimaux, Saguenay county, is situated on the north shore of Gulf St. Lawrence, at a distance of 425 miles from Quebec. Population, 800.

During the present fiscal year, the sum of $42.60 was expended, to purchase deals for urgent repairs to the approach of the wharf.

Work done 9th November.

POINTE AUX TREMBLES.

On a width of 7 and 8 feet along the middle portion of narrow section of wharf, measuring 450 feet in length, instead of removing the original 4-inch planking altogether, it was found better, and less expensive, to double it over with 3-inch good pine deals securely nailed down with 6- and 7-inch wire nails. In many places, the top of capping on same section was somewhat decayed and iron guard-rail loose; decayed portions were renewed and a 3-inch pine deal laid over the whole capping on both sides, well bolted down; over this the foot plates of the iron posts of railing were secured with stronger screw-bolts.

One section of roadway approach to wharf, which had to be cut down on side of bluff, was hard to keep in order, the ditching being frequently filled up with earth and sand washed down in heavy rains, flooding the road bed; to guard against this a drain of 3-inch pine deals, over one hundred feet in length, was placed so as to receive and divert from roadway all rainwater from above heights.

Some 36 loads of coarse gravel were carted onto the road at different points. Combined waiting-room and freight shed, also whole capping, posts and railings were painted anew.

About 50 cubic yards of broken up boulders, by dynamite blasting, were removed, at lowest water from beach on both sides of wharf, they were dangerously impeding approach to wharf.

POINTE CAVAGNOLE.

Pointe Cavagnole, known also as Pointe a Valois, County of Vaudreuil, is situated on the south shore of Lake of Two Mountains, 4½ miles west of the village of Vaudreuil, which is the nearest railway station, and 2½ miles east of Como.

This wharf rebuilt in 1901 consists of : (a) A close faced crib headblock 75 by 25 feet and a stone approach 234 by 18 feet. Minor repairs were done to the flooring, cap-piece, fence and approach. This work was done by day labour at a cost of $244.76.

POINTE CLAIRE.

Pointe Claire, an incorporated village in Jacques-Cartier county, situated on Lake St. Louis, and 14 miles from Montreal.

On October 26, 1898, the Government entered into an agreement with the Grand Trunk Railway Company of Canada, for a lease, for a period of 20 years, of the company wharf, which was a solid embankment of stone and earth, 1,000 feet long, of an average width of 45 feet, situated at the foot of Grand Trunk Avenue.

In 1899, a close faced stone-filled headblock, 121½ by 24 by 16 feet, was built, at a cost of $4,022.06.

During last fiscal year, part of the headblock, 25 by 20 feet was razed down to the water level, and rebuilt. This work was done by day labour at a cost of $799.46.

POINTE ST. PIERRE.

Pointe St. Pierre, County of Gaspé, is situated at the western entrance of Gaspé bay, twenty-one miles from Gaspé Basin and fifteen miles from Percé.

The breakwater damaged in the fall of 1914, suffered heavily during the winter and in the spring, probably with ice, part of the outside facework and sheathing were carried away, causing most of the ballast to run out of the structure. The

facework was repaired, with the help of a diver, but only some 200 cubic yards of ballast were placed in structure.

Expenditure for the fiscal year is $558.97.

PORT AU SAUMON.

Dredging.

Port au Saumon is situated in the County of Charlevoix, on the River St. Lawrence, approximately 91 miles below Quebec.

In order to permit steam barges to load pulpwood, a basin, 250 by 450 feet, was dredged at the point where the River au Saumon cuts low-tide level, to a depth of 15 feet below low-water level. This work, which had been started in the fall of 1914, was resumed and completed this season. The departmental dredge *Ottawa* removed, during three periods, from May 22 to June 11, the 5th to 29th July, and from 20th September to 12th October, 1915, over an area of approximately 112,500 square feet, 59,791 cubic yards, scow measurement, of clay, sand and boulders.

Including 8,260 cubic yards, scow measurement, removed in the fall of 1914, the total quantity dredged at Port au Saumon, in 1914 and 1915, amounts to 68,051 cubic yards, scow measurement, or 49,630 yards, place measurement. Expansion factor 37 per cent.

POUPORE.

Located on lower reach of the Riviere du Lievre. The extensive landslide which took place in 1903, below the lock and dam, choked the river for a distance of over ½ mile, and considerable dredging has been required for a number of years to improve the boat channel.

Departmental dredge *No. 102* worked above the locks August 25-31, removing 1,298 yards, scow measure, clay, includiug some stone and logs, to a grade depth of 10 feet, making 377 lineal feet of cutting. At the lower lock entrance, the improvement August 13-24 and September 1 was two cuts wide, to a grade depth of 10 feet, for a distance of 396 lineal feet. During this period, 2,340 yards, scow measure, clay, including stone and stray logs, were removed. A new channel, located about midstream was commenced at the upper end of the landslide. During the period October 12 to November 5, 6,705 yards, scow measure, clay, were removed to a grade depth of 10 feet, in two cuts aggregating 816 lineal feet. From soundings taken during the winter months, the quantity of material place measure removed in the new channel is 7,016 yards. The Brazeau cut, ½ mile below the locks, was improved September 2-22. During this period, 4,515 yards scow measure clay, including some stone and stray logs, were removed to grade depths of 9 and 10 feet in the old boat channel.

QUYON.

Quyon, a village in Pontiac county, on the Waltham Branch of the Canadian Pacific Railway, is located on the north shore of the Ottawa river near the head of Lake Deschenes.

In 1914, the wharf of the Upper Ottawa Improvement Co., was acquired by the department and reconstructed. Dredging improvements have been carried on concurrently with the construction of this wharf, and the roadway leading to the approach has been improved since. Necessary improvements of the approach-roadway on St. John street were made, October 7 to November 6, under an agreement with the municipal council of Quyon, which body passed a resolution relieving the department from any responsibility for possible damages to adjacent properties. The approach roadway was widened to 16 feet and graded for a distance of 80 feet. Riprap slopewalling, 1·5 feet thick, 6 feet high, 80 feet long, and 1·5 feet thick, 8·5 feet high and 41 feet long, also retaining wall, 3·5 feet thick, 4·5 feet high and 35 feet long, containing

some 17 cords of stone, were built to protect cut and fill of approach. A 2-inch plank sidewalk, 3 feet wide 84 feet long, with handrailing, was placed on west side of approach. In March, repairs and improvements included replacing upper corner fenders; strengthening outer corner fenders with W. I. clamps; straightening nigger-head, and minor repairs to capping and sheeting.

Expenditure during the fiscal year, $476.26.

RIGAUD.

(This work is described in the annual report for 1915).

Rigaud, a post village and seigniory in Vaudreuil county, on the Rivière à la Graisse, 2 miles south of the quai de Rigaud, a port of call on the Ottawa river.

During last fiscal year, $313.34 were spent in completing the construction of the shed and the new approach to the wharf.

RIMOUSKI.

(This work is described in the annual report for 1915.)

The town of Rimouski, chef-lieu of the county of the same name, is situated on the south shore of the St. Lawrence river, 180 miles below Quebec; its population is over 4,000.

During the fiscal year 1915-16, the work done consisted in the sinking of 600 feet of caissons, and the beginning of the superstructure of the piers sunk in 1914-15.

Dredging was also done to the extent of 7,220 cubic yards, to clear the caisson's berth and permit the sinking of the caissons.

Expenditure for the fiscal year is $50,000.

Repairs.

The work done at Rimouski wharf during the fiscal year 1915-16, consisted in the building of two small piers on the west side of the wharf; a shed, office and workshop were placed on these piers to avoid the annual payment of the rental of the ground formerly occupied by these buildings; general repairs were also made to the wharf.

Expenditure for the fiscal year is $3,218.02.

RIVER LA PIPE.

River La Pipe is a small village situated on the north shore of Lake St. John, at the mouth of the river of the same name, 7 miles north of La Grande Decharge.

Population about 800.

The sum of $61.40 was expended in renewing the roof of the freight shed and of the waiting-room on the wharf.

The work was carried out by day labour and was started August 22 and completed September 1.

RIVIÈRE AU RENARD.

(This work is described in the annual report for 1915.)

Rivière au Renard is one of the most ancient settlements in the County of Gaspé. It is the first important fishing station and business place met with proceeding from Gaspé Basin along the south shore of the St. Lawrence. The population is estimated at 1,700.

During the last fiscal year, the outside face of the pier was sheathed with piling for a length of 140 feet and the inside face for a length of 90 feet. Two to four tiers of face-timbers, on a length of 286 feet, were renewed together with part of the floor beams. Stone ballast, partly taken from alongside, was placed in the whole length, from two to five feet deep in places.

The flooring was renewed for a length of 163 feet and repaired for a length of one hundred feet. A small shed 10 by 12½ feet, built to store tools and materials, was completed and painted.

Expenditure for the fiscal year is $3,610.76.

RIVIÈRE BLANCHE.

Rivière Blanche, or St. Ulric, in the County of Rimouski, is situated on the south shore of the St. Lawrence river, 21 miles east of Metis and 9 miles west of Matane.

Rivière Blanche is an important farming settlement. There are a big saw-mill and a factory for prepared lumber, doors, sashes, etc.

The wharf and its approach is 446 feet in length by 20 feet in width, built on piers of 20 by 20 feet, with a space of 25 feet between, and a T block of 300 feet in length by 25 feet in width.

During the fiscal year 1915-16, the work done consisted in the temporary planking of the roadway over the first opening of the wharf starting from the shore.

Expenditure for the fiscal year is $125.42.

RIVIÈRE BOIS BLANC.

Dredging.

Rivière du Bois Blanc, County of Maskinonge, takes its rise in the parish of St. Justin, flows through Maskinonge and empties into the north branch of Lake St. Peter. The population interested is about 3,000.

This dredging was undertaken in order to remove logs, detritus, etc., which were an impediment to the free run-off of the water, causing the water to flow through a very rich patch of land, during the freshets.

Dredge *P.W.D., No. 124,* started work on June 4 and discontinued on 26th, removing 1,973 cubic yards and opening a channel 230 feet in length, 26 feet wide, for a 4-foot depth; the mean depth of cut being 4·8 feet. Judging that a deeper dredge was not effective, it was decided to have the balance of work continued by hand shovelling. This kind of work was started on July 7. Labourers continued the operations by cleaning the shores and the bottom by hand shovelling. They removed 12,835 cubic yards of material on a distance of 30,370 feet, maintaining a width varying from 3·5 to 6 feet on a grade of 1 inch per 100 feet. The mean depth of cut was 2·7.

The operations were completed on September 25, giving the best results.

The total yardage removed on the whole operation was 14,808 cubic yards, and cost $3,919.66.

During 1914, the dredge *P.W.D., No. 124,* removed 6,400 cubic yards at this site.

RIVIÈRE DU LIÈVRE.

Obstructions interfering with navigation, between Buckingham and Poupore, in the Rivière du Lièvre, were removed by departmental dredge *No. 102,* at the following points.

Two miles above Buckingham, opposite Smith's point, October 2—8,351 yards, scow measure, stone and gravel, to a grade depth of 9 feet.

At sand bar opposite Chas. Bigelow's farm, 6 miles above Buckingham, September 24 to October 1, 725 yards scowed away, in addition to 1,539 yards cast over of gravel and logs, to a grade-depth of 9 feet.

Two miles below Poupore, opposite Jas. Bigelow's, July 31—August 12, 1,860 yards, scow measure, clay and gravel, to a grade-depth of 9 feet.

RIVIÈRE DU LOUP (EN HAUT).

The Rivière du Loup (en haut), which flows through the County of Maskinongé, is divided into several tributaries. The main branch of the river taking its rise at the

foot of the Laurentide, a distance of 74 miles north, and empties into the St. Lawrence, near Louiseville, 21 miles above Trois-Rivières. This river is navigable for a distance of about 3½ miles from the outlet to the government wharf at Louiseville.

The population interested is about 11,993.

The dredging was performed at Tourville's mill, and at government wharf, where sand bars were removed from August 25 to November 17, by the departmental dredge *P. W.D. No. 106*. The quantity of material removed is 15,324 cubic yards. The depth contemplated was seven feet; mean depth of face 2·6 feet.

At Tourville's mill a cut was opened on 530 feet in length, 40 in width, and 2,463 cubic yards of material were removed.

At the government wharf, a cut was opened 2,965 feet in length, 40 in width, and 12,656 cubic yards of material were removed.

RIVIÈRE DU LOUP (EN BAS).

Rivière du Loup, or the town of Fraserville, is the chef-lieu of the County of Temiscouata. It is situated on the south shore of the St. Lawrence, 114 miles below Quebec.

Spring tides rise 19 feet, neaps 12 feet. During the present fiscal year the following repairs were made.

The pavement was renewed, on a surface of 3,866 square feet, with spruce deals 3 inches thick; five mooring-posts, which were weakened, were replaced with timber 20 inches square and 11 feet long.

The hardwood sheathing of the outer face, which had been carried away by ice, was repaired with 25 pieces, 6 inches thick of a mean length of 25 feet, the timber used was oak, and a fender, 8 inches by 6 inches, by 24 feet long, was also placed. In the spruce sheathing of the eastern face, 54 pieces, 4 inches thick, were replaced.

All the mooring-posts were painted and many other detail repairs were performed on the wharf and to the building standing upon the head of the wharf. These works were carried on, between 23rd July and 31st August, at a cost of $585.20.

RIVIÈRE GIRARD.

Rivière Girard, in the County of Temiscouata, is 132 miles below Quebec and about 1½ miles below Isle Verte church.

The small landing-pier built some ten years ago on the east bank of the mouth of Rivière Girard, having been damaged by ice during spring freshets, was rebuilt on a length of 79 feet and a height of 8 feet.

The top flooring and stringers which had been washed away by the current of the river was again filled with earth and pieces of timber placed to protect the filling from further disintegration. Work done during the months of July and August, at an expenditure of $999.89.

RIVER JESUS.

Authorization was received to expend $2,000 to dredge a 3-foot channel for the use of motor-boat in River Jesus from St. Eustache to Ste. Rose.

A scow was equipped with a derrick and a 1-cubic foot orange peel-bucket. The hard gravel bottom of the river was loosened with dynamite and taken off with the bucket. The result not being satisfactory the work is temporarily stopped.

This work was done by day labour at a cost of $648.49.

RIVIÈRE OUELLE.

The pier is situated at Pointe aux Orignaux, 5 miles distant from the village of River Ouelle, in the County of Kamouraska, on the south shore of the St. Lawrence, opposite Murray Bay.

During the present fiscal year, the following repairs and improvements were executed.

The superstructure, near the outer end, was renewed on a length of 140 feet by a mean height of 5 feet; in order to replace the various members, the stone ballast had to be taken out and replaced.

The flooring was renewed with spruce deals 3 inches thick on a length of 300 feet by a width of 30 feet. The capping pieces 12 inches by 12 inches, 200 feet in length were replaced, three mooring-posts were also renewed.

The northeast corner of the outer block, which is very much exposed to the action of the ice, has been protected by placing six boiler plates 12 feet by 3 feet by $\frac{5}{8}$ inches thick. The railing on the east side of the wharf, damaged by ice during the winter was renewed on a length of 110 feet, and a further length of 150 feet was repaired.

The hardwood sheathing of the outer face of the headblock was repaired and thirty-six new pieces of red birch, 12 feet long and 5 inches thick, have been placed to renew the pieces carried away by the ice.

A coal-shed, 47 feet long, 17 feet wide, strongly framed and thoroughly secured to the structure of the wharf, was built and was ready for use on the first of August. The capacity of the shed is about 400 tons.

To facilitate the coaling of the steamer *Champlain,* a new slip, 28 feet long, 9 feet wide, 4½ feet deep, was cut through the western end of the outer block.

Previously to the building of the shed, in order to secure a proper foundation for the building, the surface of the spur was repaired and strengthened.

These works were done by day labour, between 14th June and 30th October, at a cost of $4,486.16.

RIVER PETITE BERGERONNE.

Bergeronnes, Saguenay county, is situated on the river of the same name some 16 miles below Tadoussac. Its population is about 1,000.

In order to permit schooners engaged in the coasting trade to enter the River Petite Bergeronne, the sum of $498.71 was expended to continue the removal of boulders in the river.

The work was carried out by day labour and was started July 15 and suspended July 31.

RIVER SAINT CHARLES.

Locks and Dam.

On March 17, 1913, a contract was entered into with Messrs. Quinlan & Robertson for the construction of locks and dam at the entrance of the River St. Charles, in the city of Quebec, for the improvement of navigation. Work contracted for to be finished by March 14, 1916.

The dam will extend across the river from the Louise embankment on the south side, to the highest water line on the north side parallel to and west of Canadian Northern Railway bridge. The total length will be 1,590 feet.

The dam construction consists in part of a solid concrete wall, 870 feet long and 30 feet high, founded 7 feet below low water spring tides, the upper surface will be above H.W.S.T. Below and within its base there will be driven throughout, two parallel lines of interlocked steel piles, 25 and 30 feet long, respectively. The north end of the dam, for a length of 350 feet, consists of a line of 25 feet interlocked steel piles, connected to the end of the concrete wall; their upper level being nearly on a level with the top of the dam, these piles will be completely covered and the wall back-filled with suitable materials.

Through the dam in the channel of the river, there will be two passages, each 65 feet wide, leading to the locks, and two sluiceways, each 53 feet wide, with suitable gates for regulating the water level in the pool above the dam.

The sluiceway will be extended to the east end of the locks between the north-lock wall on one side and a retaining wall on the other.

Concrete piers on each side of those passages are arranged to support the future bridge spans that will be required.

The double line of interlocking steel-foundation piles under the dam are continued under the sluiceways and piers thence at right angles under the outer piers to connect with the piles across the upper entrance of the locks.

The piers and sluiceway foundations will be on the same level as the dam, but in order to support the additional bridge loads, a sufficient number of round wooden piles will be driven over the foundations, which will extend about 2 feet vertically into the piers to form a bond.

The south end of the dam will terminate at the face line of the Louise embankment where there will be a transverse cut-off line of interlocking steel piles connecting those under the concrete dam with the line of 20-foot piles crossing the river under the mat as described below.

A concrete wall 150 feet long for an end cut-off, built up to the level of the main dam and connected with it, is carried along the south side of the mat, as far as its outer line.

Two lines of steel piles for an additional cut-off pass through the wall and extend behind it for 69 and 96 feet, respectively. These piles are a continuation of one line under the dam and a line under the mat; the lower ends being at the same level as the former, the upper ends above high water. The mat will extend across the river between the up-stream wall on the north side and the south cut-off wall. It will be of concrete 2 feet thick instead of clay 4 feet thick as originally intended and will be 150 feet wide.

There will be two locks below the dam with chambers 450 feet long 65 feet wide and a depth from coping to floor of 43 feet. The thickness of the lock floor will be 15 feet, the base being 35 feet below L.W.S.T. The lower entrance of the locks will be 658¾ feet east of the centre line of the dam, and at right angles at the end of the south lock there will be a chamber built of concrete for a floating caisson to be used instead of the outer gates first proposed, on account of economy and general convenience.

The walls of the locks will be of mass concrete with granite coping above H.W.S. Tides. The floor throughout will be reinforced with steel rods and completely inclosed by driving interlocked steel piles along all sides which will reach 25 feet below bottom of floor. A guide pier 300 feet long will be built at both ends of the locks.

It is the intention to fill as much as possible any available space within the contract limits, that will make useful ground, with materials excavated from the works.

Progress of work.

For the year 1913-14, the construction was entirely confined to the work at the north end of the dam on the Limoilu side of the River St. Charles.

For the year 1914-15, the previous year's work at the north end of the dam was continued to the sluiceway. The construction of the sluiceway platform and piers was then commenced according to plans and specifications within one large cofferdam built for the purpose, all of that work however was not finished by the end of the working season. The last operation was to drive the 20 foot interlocking steel piles at the upper side of the mat above the dam for a distance of 225 feet southwards from the line of the up-stream offset wall and 118 feet from and parallel to the centre line of the dam.

Dam.

In 1915-16, the unfinished concrete work of the previous year, within the cofferdam for the sluiceway platform, and piers on the north side of the lock entrance was first taken in hand and finished as far as the limits of the cofferdam permitted. The cofferdam was then removed. The next section of pier No. 3, as far as the railway crib, was sunk as a caisson on shoes with cutting edges, open pockets being left for clam-shell

dredging. The pockets were finally filled with concrete to complete the solid pier as designed. The concrete dam was constructed to correct level on the Quebec side for a distance of 400 feet and an extra 100 feet about 12 feet high above foundation level.

Interlocked steel piles were previously driven to grade and the upper edges were cleared of any sand left by the dredges or otherwise by divers working ahead of the concrete plant.

The concrete was deposited in heavy anchored forms instead of the cofferdam method of construction adopted on the Limoilou side. On the Quebec side, the concrete cut-off wall and steel piling along the south side of the mat already described were completed. The up-stream offset wall on the Limoilou side was completed for a length of 200 feet according to original design. The down-stream wall was finished for a length of 232 feet according to original plans. The foundations for a length of 145 feet however were changed from the pile platform design to concrete caisson, the latter being considered more suitable to the conditions existing at that place. These caissons are sunk but the solid wall on the top could not be finished this year. The remaining 200 feet of the wall as designed on the original plan has been abandoned as unnecessary. Interlocking steel piles have been driven from the end of the wall eastwards in the same line as far as the end of the locks, to hold the sluiceway paving in position, interlocking steel piles have also been driven across the concrete paving of the sluiceway and continued across the upper end of lock No. 2 and connected at intersections with the line of steel piles under pier No. 3 which connect with the main line previously driven under the dam. The 20 foot steel piles for the mat have been driven from the cut-off wall on the Quebec side for a distance of 429 feet northwards. The dredging for the mat above the dam on the Quebec side was commenced this year and is nearly completed, and most of the material was deposited behind the dam.

Locks.

Dredging for the lock foundations and sluiceway was commenced this year and about one third of the excavation has been done. The greater part of the dredged material has been deposited behind the dam and offset walls and within the area to be filled between the line of the Louise embankment and the south wall of the locks, on the east side of the Canadian Northern Quebec railway. A concrete section containing mitre-sill platform for the upper end of lock No. 2 was sunk into the river bed by the open pocket process for excavation, the pockets being finally filled with concrete. The contractors made a sub-contract with the Megantic Granite Co., for the cutting and delivery of granite coping for the lock-walls, a considerable quantity of which has been cut.

The progress made for this year has been quite satisfactory, and the plant equipment amply sufficient for the work that could be accomplished within a working season. The work cannot be completed by the date specified in the contract.

The expenditure for the fiscal year was $400,792.66.

RIVER ST. LOUIS.

River St. Louis rises between the villages of Ste. Barbe and St. Stanislas, some 8 miles south of Valleyfield, and running east through the parishes of Cartier, St. Louis de Gonzague and St. Etienne, flows into Lake St. Louis at Beauharnois, some 20 miles from starting point.

The object of this dredging is to minimize the floods caused every year during freshets and after heavy rains, by increasing the flowing section of the river and heightening its banks.

From May 10 to November 13, 1915, departmental dredge *No. 101* continued the deepening of river bed, started in 1904, and continued every year since, some 16,396 yards, place measurement, of clay and 2,400 cubic yards place measurement of rock

and boulders were removed, making a total of 18,796 yards, *in situ,* of material deposited on both shores and levelled off. Hours of actual dredging, 1,282; cut, 40 feet wide average; face removed 5 feet; distance advanced, 2,498 feet.

This work necessitated the building of a temporary dam so as to float the dredge, the latter being 40 feet wide.

To date, dredging is completed up to 3,338 feet above Pont Rouge, or 3½ miles from starting point at Simon's bridge. To complete up to feeder canal, a length of over 2 miles, will take many years to a dredge of *No. 101* type, as there is no data on hand as to the quantity and kind of material yet to be removed.

Owing to current and site of river, the dredging, when completed, will last forever.

During 1914, dredge *No. 101* took out some 2,437 cubic yards place measurement of clay, 442 of gravel and 2,903 of solid rock, making a total of 5,782 cubic yards place measurement of material.

The sum of $9,000, is the annual expenses of dredge *No. 101* including crew and shore gangs.

RIVER VERTE (West).

River Verte, which flows through the parish of Isle Verte, in the County of Temiscouata, empties into the St. Lawrence about ¾ of a mile west of Isle Verte church.

The dyke built along the west side of River Verte, near the highway bridge, as a protection to the riparian properties, was damaged by ice during last spring freshets.

The sum of $500 was expended to make the necessary repairs which consisted in replacing a length of nearly 200 feet of the inclined apron and three rows of face timbers.

The stone ballast carried away by the current of the river was replaced, with also the stone backing on about the same length. A few repairs were also done on the west shore dyke, which had also suffered some damage.

Work was done during the month of September.

ROBERVAL.

The town of Roberval, Chicoutimi county, is the terminus of the Quebec and Lake St. John railway, it is also the shire-town of the County of Lake St. John, and the centre of navigation of the lake of the same name. Its population is 3,000.

During the present fiscal year, the outer end of the wharf over a distance of 72 feet by 67 feet in width, which was partly rebuilt last year, was completed by sheathing and flooring with 4-inch deals. A new freight shed and waiting room 60 feet by 25 feet was built, a moving slip 40 feet in length by 12 feet in width, operated with a patent reading gear, had also been constructed, the railway trestle passing alongside the wharf was repaired on a distance of 469 feet, these repairs consist in the renewing of the cap-pieces, braces and stringers, British Columbia fir 12 inches square was employed. All stringers, cap-pieces, and uprights between the trestle and the wharf were renewed, and covered with 4-inch deals; the old retaining wall built with stone was taken down and replaced by a concrete one.

In order to protect the trestle at high water, 26 fenders 12 by 12 inch were placed, these pieces were driven in general two and three feet and stand to the height of the cap-pieces, they are braced by a cross-piece bolted to the leg of the trestle and the fender.

A 2½-inch pipe was laid from the Main street to the centre of the wharf to be used in case of fire and 100 feet of fire-hose was placed in small shed built for that purpose.

Two iron cranes were installed to facilitate the loading and unloading of heavy cargo.

The work was carried out by day labour, and was started May 11 and completed March 30, at a cost of $8,553.93.

ST. ADELAIDE DE PABOS.

The breakwater of St. Adelaide de Pabos, commenced in 1888, was built for a total length of 460 feet in an average depth of 4½ feet of water at low water spring tides.

The last 160 feet was built by contract in 1913.

During the last six months, an approach of sixty feet of open-faced cribwork was built, to connect the breakwater with roadway, and the hill was repaired.

Expenditure for the fiscal year is $1,483.98.

ST. ALPHONSE DE BAGOTVILLE.

St. Alphonse, the terminus of the Roberval-Saguenay railway, is situated at the head of Ha Ha bay, on the southern side of the River Saguenay, some 66 miles from its mouth. It is a stopping place of the Canada Steamship lines. Population about 1,500.

During the present fiscal year, the sum of $478.78 was expended in renewing the flooring on the headblock of the wharf over a distance of 85 feet by 48 feet in width.

The work was carried out by day labour, was started June 9 and completed June 24.

ST. ANDRÉ.

The village of St. André, in the County of Kamouraska, is situated on the south shore of the St. Lawrence, about 15 miles west of River du Loup, and 100 miles below Quebec.

The place is somewhat frequented as a summer resort; it contains a foundry and an important threshing-mill factory.

Spring tides rise 19 feet, neaps, 12 feet.

A sum of $978.10 was expended towards making repairs to the flooring of the wharf, which was nearly renewed, on a length of 400 feet by a width of 25 feet.

About 200 feet of spruce 9 inches by 9 inches have been used to renew the stringers.

Besides the repair to the flooring, the sheathing which closes the openings between the isolated blocks was repaired and many other minor works were also performed, such as repairs to the old pavement upon the whole length of the wharf.

Work was done during the months of May, June and July.

ST. ANDREWS.

St. Andrews, Argenteuil county, is located on the North river 3¼ miles from the Ottawa river.

In 1911, a small cribwork wharf was built by contract, and subsequently improved.

During the past season, several leaky places in the storehouse were repaired; the stone and earth approach was repaired by building out the riprap walls and covering with sods and gravel. The roadway between wharf and main road, for a distance of some 100 feet was made wider by levelling off the adjacent ground.

Expenditure during fiscal year, $35.

STE. ANNE DE BEAUPRÉ.

Ste. Anne de Beaupré is situated in the County of Montmorency, on the north shore of the River St. Lawrence, about 21 miles below Quebec. Population, 3,000.

In the course of last spring, part of the wharf, which is over 1,800 feet in length, was completely destroyed by a storm. During the past season, the portions destroyed

were rebuilt and the balance of the credits voted was used in temporary repairs to the rest of the wharf. The work done was the building of new cribwork, flooring, 16-foot trestlework, 24-foot breastwork, demolition of old cribs and old trestlework, general temporary repairs and falseworks.

The work was performed by day labour between May 4 and October 7, 1915. Total expenditure for fiscal year, $18,561.23.

STE. ANNE DE BELLEVUE.

Ste. Anne de Bellevue, a town in Jacques Cartier county, at the confluence of the Rivers St. Lawrence and Ottawa, and on the Grand Trunk railway and Canadian Pacific railway, 21 miles west of Montreal. It contains two churches (Episcopal and Roman Catholic), one convent, one college for the education of Roman Catholic boys and girls, one bank, two telegraph offices, five hotels, seven stores, two carriage factories and the MacDonald College of Agriculture. Population, 1,800.

The object of this dredging is to do away with present channel leading through Baker's dam, which is the cause of serious delays to boats and especially tows going up and down Ottawa river.

Baker's dam has to be rebuilt soon, both sides, on the whole length, and this department is informed by the Railways and Canals that the reconstruction of said dam will cost $200,000. The work is of a public nature and of the first importance in the district.

From May 18 to November 6, departmental dredge *No. 123* removed some 34,739 cubic yards, scow measurement, of clay, sand, boulders, hardpan and rock in making a new 10-foot channel. The number of cubic yards, *in situ*, as determined by soundings which have been taken in January, 1916, is 19,360 of ordinary material, 4,960 of rock, making a total of 24,320 cubic yards *in situ*.

The quantity, place measurement, corresponds with scow measurement, the expansion factor for ordinary material is 33⅓ per cent and 80 per cent for rock. Hours of actual dredging, 1,152½; cut, 10 to 45 feet wide; face removed 3 to 12 feet; distance, 8,412 feet; dumping ground within two miles, in a deep place, along Ile Perrot islets, same 1,500 feet south of present channel.

Dimensions of work done during 1915 are as follows: 1 cut 150 feet wide at bottom by 1,130 feet long, which embraces the cut 920 feet long by 45 feet wide, made in 1914.

Site of dredging extends below Ste. Anne's lock, from opposite the head of Baker's dam, going south-eastward, and well protected from storms.

Owing to the fact that the site is well protected from storms, nearly no current, and hard material, the probable duration of the improvements will be over 30 years.

During 1914, departmental dredge *No. 13* worked from June 9 to 27, and *No. 123*, from July 20 to November 14, removed some 25,924 cubic yards, scow measurement, in making an up-stream cut, 1,305 feet long by 45 feet wide, and a down-stream cut, 920 feet long by 45 wide.

To complete, as originally proposed, will require the removal of 16,440 cubic yards, place measurement, of rock, and 82,990 cubic yards, place measurement, of other material, with an expansion factor 80 per cent for rock and 33⅓ per cent for ordinary material. Dimensions of work to be done: 2,300 feet long average by 200 wide at bottom, the whole to 10-foot below extreme low-water level, corresponding to 9 feet on lower sill Ste. Anne's lock.

Since the dredging operations have been undertaken, 197 working days were spent here, or 7½ months.

STE. ANNE DE CHICOUTIMI.

Ste. Anne, Chicoutimi county, is situated opposite the town of Chicoutimi, where a ferry-boat makes a trip every half hour. It is an important farming place of about 2,000 inhabitants.

During the present fiscal year, the wharf, which is 382 feet long by 25 feet wide, with a headblock of 75 by 75 feet, has been repaired, 5 feet of the superstructure, over a distance of 382 feet by 25 feet wide, required renewal. In order to facilitate the execution of these repairs without interfering with traffic, which is very heavy on that wharf, piles were driven 10 feet apart on both sides of the wharf, then, the whole flooring and stringers were taken off by sections of 20 feet, in order to place a cap on pile timbers, the stringers to receive flooring, etc., on the full length of the wharf. The south side of the wharf was sheathed from the top to 2 feet below low water with 4-inch deals, secured with 9-inch nails to the walings prepared for that purpose, the headblock was levelled and sheathed, a new movable slip built, a slip 95 feet long by 10 feet wide was also built, and freight shed and waiting-room painted.

The work was carried out by day labour. Work started May 6 and was completed September 11 at a cost of $10,255.94.

STE. ANNE DES MONTS.

Ste. Anne des Monts is an important municipality fifty-four miles below Matane on the shore of the St. Lawrence river.

During the course of last summer, a landing pier, commenced in 1914, was extended for a length of 1,340 feet.

ST. ANTOINE

St. Antoine is a post village and parish in Verchères county, on River Richelieu, 7 miles from Contrecœur station on the Montreal and Southern railway, and 15 miles from St. Hilaire.

In order to protect the shore bank of the River Richelieu in front of the church from spring freshets and the waves of the boats passing through the main channel, it was decided to construct a dry-stone wall 300 feet long, 15 feet high, 8 feet wide at the base and 3 feet at top.

The stone necessary for the construction of this wall was bought and delivered on the site at a cost of $300.

ST. BARTHELEMI.

St. Barthelemi is a post village in Berthier county, the station being 1½ mile distant, on the Canadian Pacific railway, 65 miles east of Montreal.

A protection dyke about 1,100 feet long was raised 3 feet on its entire length.

This work was done by day labour at a cost of $999.75.

ST. CHARLES.

St. Charles is a post village in St. Hyacinthe county, on the River Richelieu, nine miles from St. Hilaire station.

It contains one Roman Catholic church, express and telegraph offices, four stores, one hotel, one branch bank, saw and grist mills. Population, 900.

The public wharf built in 1908 consists of: (*a*) A pile headblock 137 by 24 feet: (*b*) A crib approach 137 by 29 feet and (*c*) An earth approach 75 by 16 feet.

During June last, 1,500 square feet of the flooring was repaired by day labour at a cost of $183.03.

ST. DAMIEN.

St. Damien is a post village in Berthier county, six miles from St. Gabriel de Brandon. Population 1,160.

In order to protect a rural bridge, two ice-breakers were built in Black river, each 12 feet high, 6½ by 20 feet at base and 14 by 3 feet at top, resting on a pile foundation.

This work was done by day labour at a cost of $800.08.

ST. DENIS.

St. Denis, a flourishing post village and parish of St. Hyacinthe county, on the River Richelieu, 18 miles from St. Hilaire station and 7 miles from Contrecœur on the Montreal and Sorel railway.

The public wharf built in 1909 consists of: (*a*) A pile headblock 89 by 32 feet 5 inches with an extension 30 by 20 feet at the north end; (*b*) A stone approach 100 by 86 feet with sides riprapped and sloped 1 in 1; (*c*) A freight shed 31 by 24 feet, and (*d*) A concrete sidewalk 4 by 100 feet.

During last fiscal year, 1,500 square feet of the flooring were renewed and minor repairs were done to the stone riprap, cap-piece and shed by day labour at a cost of $227.13.

ST. ELOI.

St. Eloi, in the County of Temiscouata, lies on the south shore of the St. Lawrence, 17 miles below Rivière du Loup. It has a population of about 1,000 all engaged in farming. The sea-grass industry is also carried on, the quantity of moss during last season being over 6,000 tons.

During the fiscal year ended March 31, 1916, the sum of $1,009.42 was expended to complete the dredging of the channel leading from the wharf to the channel.

Advantage was taken of the bed of a small river, and a length of 500 feet by a width of 20 feet and mean depth of 2 feet, was excavated; 1,000 cubic yards of earth and about 100 cubic yards of stone were removed.

It was hand dredging, the material being loaded in scows at low tides and carried away at high tides.

The dredging was performed to help the sea-moss industry, by allowing scows engaged in that industry to land at the wharf during neap tides.

The work was commenced on July 1 and completed on August 31.

STE. EMILIE.

To enable residents of that end of parish, to have access over wharf to beach on east side, and vice versa for residents of west end, a side slip was filled with stone ballast and covered with 6-inch round cedar.

It was found necessary to cut out landing steps or small slip in east side of outer block end, to facilitate approach to it in strong westerly winds; its dimensions are 12 feet long 10 feet wide and 5 feet high on face.

Some 150 yards of coarse gravel were spread over roadway crib-approach, rounding off from middle to sides.

One upright guard-fender, 16 feet long and 8 by 10 inches dimensions, were renewed with tamarac at outer end of wharf; some 25 broken deals were also replaced with 3-inch spruce deals and 60 cubic yards of stone ballast were placed in shore slip and alongside of wharf.

At close of navigation, wharf movable-fenders, posts, sheds and other materials pertaining to wharf and liable to be carried away or injured by high water, ice, or spring freshets at opening of navigation this present spring, were removed and made secure for winter.

STE. FELICITE.

Ste. Felicite, in the County of Rimouski, is situated on the south shore of the St. Lawrence, about eleven miles east of Matane. It is a farming and lumbering settlement. There is a saw-mill and a butter factory.

In 1913-14, the Department built a wharf 540 feet in length by 22 and 30 feet in width.

The work done during the last fiscal year, consisted in the construction of a rip-rap stone protection alongside the road near the shore end of the wharf.

The repairing of the approach was also commenced.

Expenditure for the fiscal year is $199.75.

ST. FRANCOIS DU LAC.

(This work is described in the annual report for 1915.)

St. Francois du Lac is the county town of the County of Yamaska, situated on the west side of the River St. Francis, 9 miles above its mouth where it empties into Lake St. Peter.

Work of repair was commenced June 1 and carried on to June 25, 1915, and consisted in re-setting the fence of both sides of the right-of-way, grading the roadway, removing from the wharf sand and mud carried thereon by high water, repairing the sheathing and the flooring of the wharf, and placing on the low level wharf the freight shed which had been removed for the high water season.

The warehouse was again removed from the wharf the first days of February, 1916, and carried to a safe place for the high water of the spring of 1916.

During the fiscal year the expenditure was $354.93.

ST. FULGENCE.

St. Fulgence, Chicoutimi county, is a farming and lumbering place of about 1,200 inhabitants, with a few saw-mills, situated some 9 miles below Chicoutimi town, on the north shore of the River Saguenay.

During the present fiscal year, the sum of $1,178.28 was expended in renewing the flooring, stringers, corbels and about two courses of timbers over a distance of 245 feet.

The work was carried out by day labour, was started June 22 and completed July 31.

Dredging.

In the summer 1912, a small channel, 30 feet in width, was started. This channel was to enable gasolene launches plying daily between Chicoutimi and St. Fulgence to get to the St. Fulgence wharf.

During the last fiscal year, the Government plant *Steam Derrick* was used to complete this channel.

The work was started on May 18 and continued until 28th.

700 cubic yards were removed.

ST. GÉDÉON.

St. Gédéon is one of the most important villages on Lake St. John. Population, 1,500

During the present fiscal year, the sum of $498.53 was expended in blasting some boulders in the vicinity of the wharf at St. Gédéon les Isles, these boulders were a constant danger to navigation.

Work started March 1, suspended March 24, and was carried out by day labour.

STE. GENEVIEVE.

(This work is described in the annual report for 1915.)

Ste. Genevieve is a post village and parish of Jacques-Cartier county, on Rivière des Prairies.

During last fiscal year, the flooring of the approach on Ste. Genevieve side was renewed for a width of 12 feet on its entire length at a cost of $796.75.

ST. GODEFROY.

St. Godefroy, in Bonaventure county, is a flourishing parish, having a population of 2,500 partly engaged in the fishing industry. There is a considerable lumber trade done at this place and farming is progressive.

The wharf built in 1904-1905, was repaired during the fiscal year 1915-16. Part of the planking was renewed, a portion of the cap piece was also replaced, some repairs were also done to the sheating. The wharf was cleared of the gravel and sand left on top during the storms of fall and winter of 1914-15.

Expenditure for the fiscal year is $351.46.

ST. GRÉGOIRE.

St. Grégoire is situated in the County of Quebec, on the north shore of the River St. Lawrence, about 9 miles below Quebec. Population 2,500.

During the past season, the breakwater was thoroughly repaired and the two slips, placed at each end, rebuilt. This work involved the putting in position of 9,155 lineal feet of face timbers, longitudinals, cross-ties, floor and ballast stringers, copings and 52 yards of ballast. One thousand one hundred and two square yards of 2- and 3-inch sheathing were renewed and all copings painted.

Work done by day labour from 31st May to 28th June, 1915.

Total expenditure for fiscal year $3,781.17.

ST. IGNACE DE LOYOLA.

St. Ignace de Loyola, a post village and parish in Berthier county, an island on the St. Lawrence river, 2½ miles from Berthierville on the Canadian Pacific railway, 2 miles from Sorel on the opposite bank. Population, 1,031.

The dyke connecting Ile St. Ignace with Ile Madame, built in 1912, on a length of 250 feet by a width of 18 feet at top, over a road leading to the village, having been washed out on a length of 200 feet, authority was received to repair it. Accordingly earth filling was done on a length of 200 feet by a mean height of five feet for a width of fifteen at top and side slope of 2 to 3, ninety feet of which was covered with the Decauville brick system.

The work was done by day labour at a cost of $736.78.

ST. IRÉNÉE.

St. Irénée is situated in the County of Charlevoix, on the north shore of the River St. Lawrence 78 miles below Quebec. Population, 1,800.

During the past season, approximately 800 square yards of flooring, including posts and floor stringers, and in some parts longitudinals and cross-ties, were renewed at the shore-end of the wharf. This work included the removal of old lumber. Over 1,000 lineal feet of 12 by 12-inch coping and 550 lineal feet of railing were placed. The approach to the wharf on an area of 500 square yards was raised and levelled with stone and earth-filling and covered with gravel. 3 new oak fenders 26 feet long 12 by 12-inch were put in position at the head-block, and 260 square feet of 5-inch hardwood

sheathing were replaced. The roof of the freight and passenger shed and all railings were painted and minor repairs effected to the shed and wharf steps.

Work done by day labour between 18th May and 6th December, 1915. Total expenditure for fiscal year, $5,099.39.

Dredging.

During the past season, in order to enable Royal Mail steamers to safely berth at low tide, the basin at the wharf was enlarged 200 feet west of the wharf over an area of approximately 13,000 square feet and to a depth of 15 feet below low-water level. Departmental dredge *Ottawa*, working at St. Irénée from 30th July until 14th August, 1915, removed 5,082 cubic yards, scow measurement, or 3,750 yards, place measurement, of sand and clay. Expansion factor, 33 per cent.

ST. JEAN, I.O.

St. Jean is situated on the south shore of the Island of Orléans, approximately 18 miles below Quebec. Population, 2,500.

During the past season, repairs were effected to face and corner of the wharf and to the movable slip. 16 oak fenders 26 feet long and 12 by 12-inch were put in position, and 330 square feet of 6-inch oak sheathing were renewed. The movable slip was narrowed by 12 inches to insure its free action, and minor repairs were made to the flooring of the wharf.

Work done by day labour between 10th August and 8th September, 1915.

Total expenditure for fiscal year, $1,486.09.

ST. JEAN DESCHAILLONS.

The whole deck timbers of wharf being in bad condition, were reinforced by laying on top of old planking of 4- and 5-inch a new flooring of 3-inch pine deals, 11 inches wide, from end to end of structure, well secured with 6-, 7-, 8- and 9-inch wire nails; the capping all around wharf was also raised with 3- by 11-inch pine deal covering to keep the 3-inch level above flooring.

The east elevation of inshore approach at south end had to be sheathed all over, to keep out the refuse stuff washed underneath at high tides, causing decay of timbers.

Several fenders 15 to 16 feet long, damaged by dredging tugs, had to be renewed, also mooring posts pulled out by same. All posts, long movable fenders (25 pieces), extending 6 feet above wharf and capping, were painted.

As reported from year to year, the greatest trouble and expenditure in connection with government works at Deschaillons are connected with maintenance and permanency of the approaches between public highway down to edge of cliff and thence by trestle work down to level of wharf.

When work was suspended in November, 1914, the portion of road on hill, between railway track and trestle, was left in the best of condition, well drained, ditched, levelled, rounded off and would have been in same condition in spring of 1915 if, before winter set in, the whole length and width of same had not been blocked up with a full barge load of wrecked material, timber and deals, hauled up from the beach and thrown on to the roadway and left there all winter.

In the spring, when freshets caused by rain and melting snows flooding the roadway could not find a free outlet down hill, the water scoured the whole roadbed under the obstructing timbers on a length of 300 feet, washing out broken stone, gravel and earth packed between trestle work resting against face and top of cliff, the latter being a brick clay easily dissolved and disintegrated.

Besides involving an extra expenditure of $600 and considerable loss of time, the damage done called for a good deal of extra work involving additional cribwork and stone protection in and around protection wall and other cribs already built, along foot of cliff.

At close of navigation, wharf fenders, posts, sheds and all materials attached to wharf and liable to be carried away by high water, ice or spring freshets, at opening of navigation this coming spring, were removed and made secure for winter.

ST. JEAN PORT JOLI.

The village of St. Jean Port Joli, in the County of L'Islet, is situated on the south shore of the St. Lawrence river, 60 miles below Quebec.

Spring tides rise 21 feet, neaps, 13 feet.

During the very severe storm that swept the lower St. Lawrence in the month of December, 1914, the wharf underwent damages which should be repaired before the opening of navigation, and the sum of $994.75 was expended and the work was performed during the months of April and May last, and consisted of the following:—

The pavement which had been carried away on a length of 192 feet by a width of 30 feet, was replaced with spruce deals 3 inches thick, on the east side of the wharf at about middle length, four rows of face timbers, 92 feet long, were also replaced with spruce 12 inches square. The spruce sheathing was renewed on the east side for a length of 131 feet by a height of 17 feet, and on the west side on a length of 24 feet, with spruce deals, 3 inches thick.

The fence enclosing the government grounds near the inner end of the wharf was completely renewed.

STE. JEANNE DE L'ILE PERROT.

Ile Perrot is situated in Lake St. Louis, between Beauharnois and Ste. Anne de Bellevue, at the western extremity of the island of Montreal. It is about 8 miles long and 4 miles wide. Canadian Pacific railway crosses the northern extremity of the island, connecting Ste. Anne de Bellevue with Dorion and Vaudreuil. The village of Ste. Anne is on the southern shore of the island, immediately opposite the town of Beauharnois and about 3½ miles east of Cascades point, at the eastern extremity of Soulanges canal.

The object of this dredging is to give a swinging basin, downstream of present wharf (built in 1915), in order that boats may take the range of the channel.

The traffic carried here consists of farm produce, apples, potatoes, etc.

SS. Beuharnois making a few weekly trips from Beauharnois to Montreal will call here. About 10 barges will be loaded yearly at wharf with hay, carrying 135 tons each, and drawing from 6 to 7 feet. It is practically the only route to ship traffic in summer, railways having no station on Ile Perrot.

From July 21 to August 5 departmental dredge *No. 106*, and from September 15 to November 6, departmental dredge *No. 119* removed some 6,855 yards, scow measurement, of clay, boulders and some rock, in making a 6- to 7-foot channel leading to the wharf.

Dredge *No. 106* removed some 782 cubic yards, scow measurement. Hours of actual dredging, 85; cut, from 8 to 30 feet wide; face removed 1′ to 3′ ·8; distance advanced 334 feet; dumping ground ½ mile downstream of present channel.

Dredge *No. 119* removed some 6,073 yards, scow measurement. Hours of actual dredging, 244½; cut, from 15 to 22 feet wide; face removed ½′ to 8 feet; distance advanced 1,887 feet; dumping ground ½ mile downstream.

The number of yards situ, as determined by soundings taken in January, 16, is 5,142. The quantity place measurement corresponds with the scow measurement with an expansion factor of 33⅓.

During the autumn of 1915, a sum of $66 was expended in blasting 300 feet, from face of present wharf in channel, in order to facilitate the removal of big boulders and a certain quantity of shale-rock.

Dimensions of work done during 1915: a channel 385 feet long by an average of 100 wide, the whole to a depth of, owing to rocky bottom, 4½ to 7 feet, at low water level.

The site of dredging done is immediately in front of present wharf, or opposite church.

Owing to the fact that the site of dredging done is well protected from storms, and no cross-currents, the duration of dredging will be for ever.

During 1911, departmental dredge *Challenge* removed some 3,142 yards, scow measurement, of clay and boulders.

To complete, as originally proposed will require the removal of 3,409 yards, place measurement, or 4,545, scow measurement, of which 693 yards is probably solid rock. The expansion factor of ordinary material is 33⅓ per cent and 80 per cent for rock. Dimensions of work to be done: a basin 80 feet along shore by 225 feet parallel with the present channel, and the removal of a ridge of rock 100 by 100 feet average, the whole to a depth of 7 feet.

Owing to local difficulties and blasting required to complete a 6- to 7-foot channel, will take about 1 or 2 working months to a dredge of a light type.

ST. JEROME.

St. Jerome, Chicoutimi county, is situated on the west side of Lake St. John. Its population is about 2,000, mostly engaged in farming. It is the most important village of the region.

During the present fiscal year, the sum of $99.78 was expended in removing the freight shed and waiting room from the new extension, which was settling down, to the older portion of the wharf.

The work was carried out by day labour, was started November 17 and completed November 28.

ST. JOSEPH DE SOREL.

(This work is described in the annual report for 1915.)

St. Joseph de Sorel, a post village and parish in Richelieu county, on the Richelieu and St. Lawrence rivers at the southwest end of Lake St. Peter.

(*A*) *Ferry Approach.*

In order to provide, during the spring season, a better landing for the people using the ferry between Sorel and St. Joseph the approach to the ferry was raised 4 feet for a distance of 230 feet.

This work was done by day labour at a cost of $800.69.

(*B*) *Wharf.*

Minor repairs were done to the flooring of the public wharf by day labour at a cost of $24.72.

ST. MAJORIQUE.

(This work is described in the annual report for 1914.)

St. Majorique is a large municipality on the north side of the northwest arm of Gaspé harbour at the mouth of the Dartmouth river.

During the fiscal year 1915-16, one small wooden bridge 27 feet wide was built, and another reinforced at a cost of $150.05.

ST. MARC.

St. Marc is a post village in Verchères county, on the west shore of the Richelieu river, 9 miles north of Belœil Station on the Grand Trunk railway, and 15 miles from St. Hyacinthe.

The public wharf, 2 miles above the village, built in 1902, consists of: (*a*) A pile head-block 86 feet by 32½ feet with a concrete flooring; (*b*) A stone approach 40 by 45 feet, and (*c*) A store-house 15 by 22 feet 4 inches.

During last fiscal year, the concrete flooring was renewed and repairs were done to the stone approach, the head-block and shed.

The work was done by day labour at a cost of $794.17.

ST. MAURICE RIVER.

Grandes Piles to La Tuque.

The St. Maurice river flows through the Laurentide mountains for a distance of 350 miles, and empties into the St. Lawrence river near Trois-Rivières. There is a portion of this river navigable for shallow-draught boats plying between Grandes Piles and La Tuque.

The dredging has for object the maintenance of a 4-foot channel by cutting bars of alluvial sand, formed at curves, or where there are prominent enlargements of the river bed. This dredging was performed continuously since 1899 by the departmental dredge previously called *St. Maurice Dredge,* now Public Works Department *No. 122.* During the last season, sand bars were cut at the following places:

Place.	Yardage removed.	Length dredged.	Width of cut.	Mean depth of cut.
		Feet.	Feet.	Feet.
Ile aux Morpions—				
Commenced work July 5				
Discontinued work August 9	3,548	1,252	40	2·01
Traverse à Ricard—				
Commenced work August 10				
Discontinued work August 31	4,950	1,284	40	1·50
Pointe à Trudel—				
Commenced work September 1				
Discontinued work September 9	1,760	380	40	1·9
Ile aux Fraises				
Commenced work September 10				
Discontinued work September 28	4,085	673	40	1·9

The total operation can be summarized as follows:—

Time of operation, 716 hours; cubic yards removed, 24,103; length of dredging, 3,589 feet, and actual hours of dredging, 378. The total expenditure was $6,618.21.

Rapids Manigonce.

The rapid Manigonce is situated on the St. Maurice river, 56 miles from the outlet. The object of the work is the maintenance of a 4-foot channel, and the straightening of two parts of this channel that are nearly at right angles to each other, by removing big boulders which are an impediment to navigation. During the year, boulders were located and removed, from July 17 to September 28. The total yardage removed is 1,037 cubic yards of rock.

This dredging was performed by the departmental stone lifter Public Works Department, *No. 101,* and cost $2,844.57.

During 1913, the stone lifter removed 653 cubic yards; in 1914, 148 cubic yards, and in 1915, 1,037 cubic yards of rock.

Middle Channel at Three Rivers.

The dredging was undertaken to facilitate the floating of logs to the sorting gaps of Messrs. Dansereau and the Wayagamack Pulp and Paper Company, by cutting sand bars covering clay and boulders stratum. This dredging was executed during the year in the centre branch, ordinarily called the Middle channel, by dredge *Capital*, which removed 10,222 cubic yards of material, representing 26 per cent of the work under agreement with the department. Dimensions of work were 2,410 feet in length, 30 in width and the mean depth of cut 3·4 feet.

The work was started on May 6 and discontinued on 31st.

ST. MICHEL.

St. Michel, in the County of Bellechasse, lies on the south shore of the St. Lawrence, 15 miles below Quebec.

Spring tides rise 21 feet, neaps, 13 feet.

During the last fiscal year, the following works were performed on the wharf, to complete repairs undertaken three years ago. 40,000 feet B.M. of spruce deals, 3 inches by 9 inches by 12 feet long, were used to renew the sheathing of the face timbers and to repair the pavement; a surface of 6,480 square feet of the face timber was sheathed with spruce deals 3 inches thick, and 4,000 square feet of pavement were renewed, and a middle pathway, 480 feet long 2 feet wide, was also constructed. Forty spruce fenders 10 inches by 8 inches, of a mean length of 20 feet, were replaced, together with an oak fender 12 inches by 12 inches by 15 feet in length and one pine mooring-post 14 inches by 14 inches by 12 feet long.

The stairway on the east side of the wharf was renewed with red pine, steps 6 inches by 12 inches, and a railing 12 inches by 12 inches by 40 feet long. The shed standing on the head of the wharf together with capping pieces and mooring-posts were painted.

The head-block shewing signs of weakness, on account of the large slip cut through, it was found expedient to place across the cribwork, 4 iron rods 1¼ inches in diameter, 53 feet long, with swivels, so as to bind the structure on both sides of the slip. These works were done by day labour during the months of June, July and August, and the expenditure was $2,499.93.

ST. MICHEL DES SAINTS.

St. Michel des Saints is a post village in Berthier county, 50 miles from St. Gabriel de Brandon, a station on the Canadian Pacific railway.

Population, 1,000.

In order to protect a rural bridge over River Matawin, two ice-breakers were built, each 19 by 8 feet at base, 15 by 3 feet at top and 11½ high, resting on piles sunk 24 feet deep.

This work was done by day labour at a cost of $1,501.83.

ST. OMER.

St. Omer, County of Bonaventure, is situated on the north shore of the Baie des Chaleurs, 42 miles east from Matapedia.

It is a prosperous parish with a population mostly composed of farmers. A passenger boat plies twice a week between St. Omer, Dalhousie and Carleton.

During the fiscal year 1915-16, the work done consisted in the renewing of a portion of the planking of the wharf. Other minor repairs were also done to the wharf.

Expenditure for the fiscal year is $294.06.

ST. PAUL DE L'ÎLE AUX NOIX.

St. Paul de l'Ile aux Noix, formerly St. Valentin, is an island near the west shore of the Richelieu river, in St. Johns county, near the southern boundary, some 4 miles north of Lacolle or 12 miles south of St. Johns. Population 610.

The public wharf built in 1907 consists of: (*a*) A crib headlock 61 by 32 feet; (*b*) A pile approach 191½ by 20 feet; (*c*) A stone and earth embankment 98 feet 5 inches by 25 feet with sloping sides 1 in 1, and (*d*) A right of way 1,676 by 36 feet.

During last fiscal year, minor repairs were made to the fences bordering the right of way, at a cost of $30.50.

ST. ROCH DES AULNAIES.

St. Roch des Aulnaies is situated on the south shore of the St. Lawrence, in the County of L'Islet, 70 miles below Quebec. A few urgently needed repairs were performed on the wharf by renewing two mooring-posts and making some repairs to the flooring at an expenditure of $29.05.

ST. SIMEON.

St. Simeon is situated in the County of Charlevoix, on the north shore of the river St. Lawrence, about 12 miles below Malbaie. Population, 1,800.

During the past season, minor repairs were effected to the flooring of the wharf and to the oil-storage shed.

Total expenditure for fiscal year, $28.75.

ST. VALIER

The village of St. Valier, in the County of Bellechasse, is on the south shore of the St. Lawrence river, 21 miles below Quebec. Last winter, during an ice-shove at about high-water mark, on the west side of the wharf, from the outer end for a length of 100 feet, three rows of face timbers were broken and pushed inside leaving an opening 3 by 100 feet; shoreward for a length of 150 feet, at the same height, one row and sometimes two rows of face timber were broken in the same way. As there would have been much danger that further damages would have likely been caused had the wharf been allowed to pass the winter in this state, the sum of $1,300 was authorized to cover the cost of the necessary repairs; the outer end of the wharf was torn down on a length of 75 feet by a height of 5 feet and all broken timbers were replaced including face timbers, cross-ties and vertical posts, and the remainder of the openings caused by the ice were closed by inserting two face timbers on a length of 100 feet. The superstructure and flooring were raised and levelled upon a length of 75 feet on the whole surface of the head of the wharf; other inside pieces which were broken were also renewed. The face timbers from the outer end were sheathed upon the whole height of the wharf, 24 feet for a length of 100 feet with red birch 6 inches thick. The flooring on the shore end of the wharf, which was in a very bad state, was renewed on a length of 104 feet, by a width of 23 feet. Many decayed stringers were also replaced and a length of 24 feet of cap-pieces were renewed. The earth approach of the shore end which had been disintegrated by the waves, was replaced by a concrete wall 25 feet long, 14 inches wide and 2 feet high, and the inside was filled with gravel. Two ladders 12 feet long carried away by ice were replaced. These works were commenced on 25th September and completed on November 18, at a cost of $1,298.96.

SAULT AU MOUTON.

Sault au Mouton is part of the parish of Mille Vaches, situated on the north shore of River St. Lawrence, some 39 miles below Tadoussac. There is a saw-mill belonging to the Iberville Lumber Company, which gives employment to about 75 families. It is one of the best lumbering places of the north shore.

In order to facilitate the approach of scows used to load ocean steamers, the sum of $595.99 was expended in removing boulders.

The work was carried out by day labour, and was started September 30 and suspended October 21.

SHIGAWAKE.

Shigawake, on the north shore of the Baie des Chaleurs, in Bonaventure county, is a post village about 2 miles east of St. Godfroy.

The total length of the wharf is 490 feet and 19 feet in height at the outer end, with 5 feet of water at low-water spring tide.

The work done during the fiscal year 1915-16, consisted in the renewing of a portion of the planking, and of the sheathing of the wharf; other minor repairs were also made to the wharf.

Expenditure for the fiscal year is $199.69.

SQUATECK.

Some eighteen miles east of Lake Temiscouata, is situated Squateck settlement, which, although quite new, is the centre of a flourishing agricultural centre.

The only means of transportation for the community is via Cabano and through Lake Temiscouata.

The landing pier standing on the west shore of Lake Temiscouata, opposite Cabano, was damaged last spring by ice, which had broken 3 face-timbers of the outer end and some inside pieces, and the flooring upon a surface of 600 square feet.

During the month of September, the sum of $148.51 was expended to repair the damages.

STRATFORD.

(This work is described in the annual report for 1914.)

Stratford Centre, a post village in Wolfe county, on the Maskinonge river, 6½ miles from Garthby station on the Quebec Central railway, with port on Lake Aylmer.

Work of repair was commenced July 1 and completed August 16, 1915, and consisted in repairing in solid crib, 95 feet long, of the approach which had been destroyed by ice, repairing part of the flooring and renewing the balance, renewing two tiers of the headblock which had been broken by ice and laying a new coping around the headblock and on both sides of the approach.

During the fiscal year, the expenditure was $2,496.15.

TICOUABE RIVER.

Ticouabe river is one of the tributaries of Lake St. John, and is one of the landing places for the boat making trips between Roberval and Mistassini.

During the present fiscal year, the sum of $350.05 was expended in the construction of a spur dyke across a channel between a small island and the mainland, at the mouth of Ticouabe and Mistassini rivers.

The object of this spur dyke is to prevent the sand carried by the Mistassini river from filling in the dredging underway on the Ticouabe river.

The work was carried out by day labour, was started October 8 and completed October 28.

Dredging.

In view of improving navigation, the dredge *No. 111* was placed in commission to dredge one cut, to 4 feet below low water.

The material was mostly castover. The work was started on June 9 and continued until November 12.

The material was mostly clay, but sand was discovered at many places. Not much fear can be entertained of refilling as the current is about nul in that river.

17,630 cubic yards were removed. It will take at least one more season before the work can be completed.

TROIS LACS.

Trois Lacs is situated on Lake Megantic, about 8 miles from the town of Megantic, in the County of Beauce.

The wharf, which was flooded every spring was raised 18 inches and thoroughly repaired on its entire length. 362 square yards of spruce flooring were renewed, together with 120 square yards of gravel surfacing. 2,000 lineal feet of 10 by 10-inch copings, face timbers, longitudinals, cross-ties and floor stringers were used. The railing was also repaired and 10 mooring-posts added.

Work done by day labour from 4th September to 13th October, 1915.

Total expenditure for fiscal year, $925.40.

TROIS-RIVIÈRES.

The city of Trois-Rivières, on the northern bank of the St. Lawrence, is midway between Montreal and Quebec. Population, 22,000.

A timber dock 650 feet in length, an ice-breaker, a railway embankment and an earth filling are located in the western section of the harbour, opposite to the old wind-mill. This work was started in 1910 and completed in 1914.

During the month of April, 1915, a wash-out occurred at a point between the first and second crib from the western corner of the dock; this hole was rendering the wharf useless and a mattress 4 feet in depth was placed in the bottom, covered with 291 cubic yards of stone and 1,600 cubic yards of earth, at a total expenditure of $1,975. This work was performed under agreement between Mr. David Larivière and the department.

Two electric arc lamps were placed by the North Shore Power Company, as an aid to navigation at a cost of $200 per year, including power.

A wood pavement covering a portion of the embankment area, 900 feet by 18 feet was built by day labour during September last, and cost $1,644.61.

Dredging.

Dredging was performed by departmental dredge P.W.D *No. 116*, in face of new coal dock, located near the old wind-mill about one mile above the centre of the city. It consisted in removing a shoal formed by the sliding in of the wharf embankment, on a distance of about 500 feet by 40 wide. The depth observed was 28 feet. The work was commenced on June 12 and discontinued on 28. 10,580 cubic yards were removed.

VARENNES.

Varennes is a post village and parish in Verchères county, on the St. Lawrence river, and a station on the Quebec, Montreal and Southern railway, 14 miles northeast of Montreal.

Every year during high water period, the passage of large vessels cause waves to erode the shore between Varennes and Verchères. At places, slides over 100 feet wide have occurred, and the public highway at different places has been partially carried away.

Authority was received to repair two gaps of 115 feet and 100 feet long, respectively, which were filled to a height of from 23 feet to 14 feet at an angle of 32 degrees and one of the gaps, 115 feet long, was covered with the Decauville brick system.

The work was done by day labour at a cost of $1,805.32.

VAUDREUIL.

Vaudreuil is a post village and parish in Vaudreuil county, on the Ottawa river, with port on the Lake of Two Mountains, and stations on the Canadian Pacific railway and Grand Trunk railway. It is 24½ miles from Montreal and is a favourite summer resort for Montreal residents. Population of parish, 1,500.

The public wharf built in 1909 consists of: (*a*) A crib headblock 65 by 23 feet; (*b*) A crib and span approach 195½ by 16 feet; (*c*) A crib and stone embankment 55 by 24½ feet and (*d*) A freight shed 16 by 20 feet.

During April last, minor repairs were made to the wharf at a cost of $49.95.

VERCHÈRES.

Verchères, a post village in Verchères county, on the St. Lawrence river and on the Quebec, Montreal and Southern Railway, 21 miles from Montreal.

The public wharf built in 1905 consists of: (*a*) A pile headblock 116 by 40 feet; (*b*) A pile approach 136 by 29 feet, including an ice-breaker; (*c*) A shed 48 by 18 feet, and (*d*) A stone approach 200 by 18 feet.

During last fiscal year, the sheathing of the front face, the whole of the flooring of the headblock and the approach were renewed; 85 piles were driven at the foot of the southern side of the approach to prevent further sliding of the stone riprap.

This work was done by day labour at a cost of $2,198.75.

VERDUN.

(This work is described in the annual report for 1915).

Verdun, an incorporated city in Jacques-Cartier county, lying to the southwest of the city of Montreal, and separated from it by the tail-race of the Montreal water-works and 1 mile from St. Paul station on the Grand Trunk railway.

Minor repairs were made to the wharf, by day labour, in May, at a cost of $82.03.

Dredging.

The object of this dredging was to give better access to the recently constructed wharfs.

From July 29 to August 27, departmental dredge *No. 121* removed some 3,068 cubic yards, scow measurement, of clay, hardpan and big boulders in making a 5-to-6-foot channel. The number of cubic yards, *in situ*, as determined by soundings taken in January, 1916, is 2,302.

The quantity, place measurement, corresponds with scow measurement, with an expansion factor of 33⅓ per cent. Hours of actual dredging, 201; cut, 15 to 25 feet; face removed, 1 to 5 feet; distance advanced, 1,226 feet, dumping ground 1 mile, in a deep place, close to Nun's island.

Dimensions of work done: a channel, 375 feet long by 75 feet wide at bottom, the whole to a depth of 5 to 6 feet at low water.

The site of dredging performed is opposite Verdun dyke or immediately up-stream of channel leading to Grand Trunk boat-house.

Dredging channel.

The object of this dredging is to facilitate the passage of ferryboat between Dominion Government wharfs at La Tortue and Verdun, a distance of 3½ miles. Navigation opens between May 15 and 18, and closes between October 18 and 20.

The side-wheeler ferryboat *St. Louis* makes 4 regular trips daily from La Tortue to Verdun and return, and about 80 special trips during the season, on market days. Dimensions of ferryboat are as follows: 135 feet long, over all, 40 feet wide (deck), by a maximum draught of 5½ feet.

The work is of a public nature, and of the first importance in the district.

The approximate yearly traffic, as given by Capt. MacLean, owner of ferryboat, is as follows: 4,000 vehicles (double and single) loaded mostly with farm produce; 200 automobiles; general merchandise, 500 tons; passengers, 5,000; general freight, 4,500 tons; total ferry earnings: $6,150.00.

From September 2 to November 11, 1915, departmental dredge *No. 121* removed some 3,638 yards, scow measurement, of clay, boulders, and hardpan, in completing a basin opposite wharf at Verdun and a cut, opposite, castover, to a depth of 7 feet. The number of yards *in situ* is 2,722.

The quantity, place measurement, corresponds with scow measurement, with an expansion factor of 33⅓ per cent. Hours of actual dredging, 410½; cut, 12 to 25 feet; face removed, 1 to 6½ feet; distance advanced, 4,226 feet; dumping ground ½ mile downstream close to a shoal.

Dimensions of work done: cleaning of a swinging basin, immediately downstream of wharf, 60 feet alongside wharf by 100 feet; 400 feet from wharf, the cleaning of boulders and stones, on a length of 400 by 120 feet in width; opposite castover, left years ago; a cut 300 feet long by 18 wide, the whole to a depth of 7 feet, for basin below wharf at Verdun, and 8 feet for channel.

The site of dredging done and still to be done, is between Verdun and La Tortue, in River St. Lawrence.

The probable duration of the improvement will be over 20 years.

During 1914, dredge *No. 121* removed some 1,665 yards opposite wharf at Verdun.

To complete, as originally proposed, will require the removal of 11,000 yards, place measurement, or 14,666 yards, scow measurement, with an expansion factor of 33⅓ per cent. Dimensions of work to be done: a shoal 2,100 feet from Verdun wharf, 350 feet long, by 110 wide; opposite castover, left years ago, or 1 mile from Verdun wharf, on a length of 380 feet for the upstream side, by 200 for the downstream, by a total width of 250 feet; 1,400 feet from castover 150 feet long by 50 wide; a basin immediately downstream of La Tortue wharf, 110 feet alongside wharf approach, by 60 wide, along shore, and in front of same wharf cleaning of a few boulders, on an area of 100 feet, the whole to a depth of 8 feet below extreme low-water level, for the channel, and 7 feet clear for the basin.

Grand Trunk Boating Club.

The boat-house of the Grand Trunk boating club is situated on the northwest side of River St. Lawrence, opposite Nun's island, near the north boundary line of the city of Verdun, some 1½ mile upstream of Victoria bridge, on Montreal island.

The object of this dredging is to facilitate access to the boating club's temporary wharfs, and give an upstream channel for numerous gasolene launches drawing from 2 to 3 feet.

This boating club is probably the largest of its kind in Canada, having a registered membership of over one thousand. The club's boat-houses shelter over 200 boats of all kinds including motor-boats, sail-boats, canoes, row-boats, etc.

From the 7th May to the 29th July, 1915, departmental dredge *No. 121* removed some 8,372 yard, scow measurement, of clay, sand, boulders and hardpan. The number of yards, *in situ*, as determined by sounding taken in January, 1916, is 6,280.

The quantity, place measurement, corresponds with scow measurement, with an expansion factor of 33⅓ per cent.

Hours of actual dredging, 550½; cut, 16 to 25 feet; face removed, 1 to 4 feet; distance advanced, 4,314 feet; dumping ground from ½ to 1 mile, alongside Price island and Nun's island.

Dimensions of work done: a channel 1,250 feet long by 75 wide average at bottom, to a depth of 6 to 7 feet below extreme low-water level.

The site of dredging done starts at 1,600 feet upstream of club-house, or immediately downstream of Verdun Municipality wharfs, going in a southerly direction.

Owing to the fact that the site is well protected from storms, a good straight current in the channel, and hard material on both sides, the duration of the improvement will be for ever.

During 1914, dredge *No. 121* removed some 14,900 yards, scow measurement, of material, in making a channel 100 feet wide by 300 long, opposite the club house and in front of same, removed a few ridges.

The work is completed, as originally proposed.

VILLE MARIE.

Ville Marie is the seat of judicial district of Timiskaming, on the east shore of Lake Timiskaming, and the centre of a prosperous farming district, which finds ready market and shipping facilities at Haileybury, Ont., 14 miles distant. The traffic passing over the public wharf is some 500 tons per month.

The public wharf acquired by the department in 1887 was reconstructed in 1906, repaired and maintained until 1915, when all traffic was being handled at the new pilework dock built in 1913-14. Considerable dredging has been done in connection with both wharfs, which are located ½ mile apart.

During the past year, repairs and improvements were made to the launch float landing; pile bents at shore end of approach were relevelled; piles, braces and floor stringers, forced or broken by ice and boats, were restored; minor repairs were made to wheel-guard, hand-railing and doors of freight shed. When Lake Timiskaming storage was drawn off in March, it was necessary to chop off 40-inch ice, which overstrained the bracing system.

The old cribwork wharf (now abandoned) consists of an approach 350 feet long, 18 feet wide, and landing-head of 40 feet frontage, with slip, and 100 feet deep, but of variable width, having been built out on either side from time to time by the navigation interests; the total frontage is about 200 feet.

The new pilework dock consists of a landing-head 145 feet square, drawing 10 feet at minimum R.W.S. (elev. 581), and stands 11 feet above this level; a pilework approach 32 feet wide, 408 feet long, built to break a short steep grade; warehouse 48 by 96 feet, with 16-foot walls; float landing for launches, 14 by 40 feet, is moored to rear of wharf.

Expenditure during the fiscal year, $374.75.

Dredging.

Departmental dredge *No. 118* worked in the channel, turning basin and side slips of new public wharf June 10—August 10 and September 30—October 28, removing 19,641 yards clay, scow measure, to grade elevation 571. The outer channel has been improved on a width of 85 feet, for a distance of 1,400 lineal feet, to the turning basin, which widens from 100 to 300 feet in a distance of 300 feet to the wharf; the slips extend 144 lineal feet for a width of 78 feet on either side of the wharf. From surveys before and after the dredging of 1915, the quantity of material removed place measure is 16,164 cubic yards; the expansion factor is, therefore, 21·5 per cent.

To complete this improvement to uniform grade, so as to afford a least depth of, say, 10 feet, when Lake Timiskaming storage is at midstage elevation 581, in the fall of the year, the following work is contemplated: Cut 1,400 lineal feet by 15 feet on north side of outer channel; widening of slips 12 feet to clear width of 90 feet, and easing off, to improve the turning basin for the better accommodation of large boats; for a distance of about 1,000 lineal feet beyond the end of dredging in outer channel, the lake bottom varies from elevation 572 to 571, and, should low water conditions recur, it may be necessary to clear this section.

ONTARIO.

ARMITAGE LANDING.

Armitage Landing, in Carleton county, is a landing on the south shore of the Ottawa river, 3 miles from Dunrobin and 1½ miles from Breckenridge, on the Waltham Branch of the Canadian Pacific Railway.

In 1914-15, a wharf was built at this point to meet local conditions, and a floating landing provided for the use of launches and skiffs.

It was found necessary to improve and increase the shackles which secured the floating landing to the cribwork landing-head; during a severe storm in November, the then existing shackles were broken and the float drifted away. Immediately steps were taken and the float was returned to the wharf and placed in a more protected position, which made necessary certain alterations in the method of securing. The required chain shackles have been delivered on the work and will be placed immediately the river opens.

Expenditure during the fiscal year, $11.50.

ARNPRIOR.

Arnprior, the principal town in South Renfrew, is located at the mouth of the Madawaska, on the south shore of Chats lake, an expansion of the Ottawa river. It is on the Canadian Pacific railway and Grand Trunk railway lines and a lumbering centre of some importance.

In 1908, the old town wharf was transferred to the Crown. The wharf was reconstructed in 1909-11. Minor repairs have been made since to the fenders and waling. A cluster of lights was installed on the wharf in 1914 and maintained during the open season.

In September, 7th to 13th, repairs were made to the corner of ice-breaker of wharf, which had been partly broken and cracked by impact of boats and the ice, also to low-level platform and four concrete cross-pieces in piers of wharf. The ice was cut around the wharf in March.

Expenditure during the fiscal year, $131.26.

BAYFIELD.

Bayfield, in the County of Huron, is situated at the mouth of the Bayfield river, which empties into Lake Huron. It is 10 miles from Clinton and 12 miles from Goderich, the nearest stations on the Grand Trunk railway. Population, 600.

Work of repairs to the pier was commenced 12th May and completed 21st December, and consisted in renewing, in concrete, a section of the south pier 92 feet in length.

Authority was given to construct a gangway in the pier at a cost not to exceed $50, and the work was duly performed.

Total expenditure for fiscal year 1915-16 is $2,967.21.

BATH.

Bath, in the County of Lennox and Addington, is situated on the north shore of the Bay of Quinte, four miles from Ernesttown, the nearest station on the Grand Trunk railway. Population, 500.

Authority was given to have the R. Weddell Company perform certain dredging at this place at 35 cents per cubic yard, *in situ*. Work was commenced on 14th July and completed on 11th August.

The dredge removed 5,929 cubic yards, *in situ*, of sand and gravel, in making a channel at the mouth of the creek for a length of 300 feet, having a width of 100 feet at the outer end and 60 feet at the inner end, all to a depth of 12 feet below zero. The object of the work was to permit of fishing craft gaining access to the creek for protection in stormy weather.

Authority was also given for the removal of a further quantity of material, and the work was duly performed by the R. Weddell Company, and consisted in the removal of 3,577 cubic yards, *in situ*, of sand and gravel.

Total expenditure for fiscal year 1915-16, $3,427.59.

BEAUMARIS.

Beaumaris, district of Muskoka, is a summer resort, population about 1,000, situated on Tondron island, lake Muskoka, about 13 miles from Gravenhurst.

Repairs were made and completed on September 30, 1915, and consisted in repairing the broken spots in the concrete deck, and of providing notices to be placed on the wharf.

Total expenditure for fiscal year 1915-16, $23.57.

BEAVERTON.

Beaverton, in the county of Ontario, is situated on the east shore of lake Simcoe on the Grand Trunk and Canadian Northern railways, about 72 miles from Toronto. Population, 2,500.

The work of cleaning and painting the railing on the wharf was duly performed in August last and consisted in giving the railing a thorough cleaning and two coats of paint.

Total expenditure for fiscal year 1915-16 is $50.

BELLEVILLE.

Belleville, in the county of Hastings, is situated at the mouth of the Moira river, which empties into the bay of Quinte. Population, 11,000.

Contract plans and specifications were prepared and tenders called for the construction of a warehouse. The work has recently been awarded to Messrs. Conroy & Hickey for the sum of $4,700, and will commence almost immediately.

The work of installing a lighting system on the wharf consists in providing and erecting standards, at 80 feet centres, and the installation was completed in February, 1916.

A walk was constructed and completed on 26th August at 15 cents per square foot, and consisted in the construction of a concrete walk, 210 feet in length and 8 feet in width, on the gravelled top of the stone approach to the wharf.

Total expenditure for the fiscal year 1915-16 is $1,347.61.

Dredging.

Authority was given to have the Randolph Macdonald Company perform certain dredging at 25 cents per cubic yard, *in situ*; the authorized quantity being 19,900 cubic yards place measurement.

Work was commenced on 13th September and was completed on 20th October when the dredge removed 19,132 cubic yards, *in situ*, of mud, gravel and clay, mixed with sawdust, in making a channel, 120 feet wide and about 1,000 feet long, to a depth of 12 feet below zero, from the new wharf to deep water, in order to provide

accommodation for steamers arriving from or departing to the east. Another area of varying width and about 800 feet long was dredged to the same depth and connected in an easterly and westerly direction, the channel above referred to, with dredging previously performed.

Total expenditure for the fiscal year, 1915-16, $4,897.

BENSFORT.

Bensfort, in the county of Peterborough, is situated on the Otonabee river about 14 miles south of Peterborough. It is a rural community.

Work of repair, by day labour, was commenced on 14th June and was completed on 30th June. It consisted in the renewal of the capping timbers and decking throughout the entire wharf.

Total expenditure for fiscal year 1915-16 is $246.20.

BIG CHAUDIERE DAM.

On the French river, 12 miles from its source on lake Nipissing, 30 miles from Sturgeon Falls, 35 miles from North Bay, and 43 miles from Callander, the latter being the port best adapted for the handling of materials, freights, etc.

As two channels of the river had to be blocked, two dams were built, one consisting of two gates and the other one gate. The main dam consisted of two concrete abutments 40 feet long, 18 feet high and 5 feet wide on the coping, and one pier 40 feet long, 18 feet high and 12½ feet wide. The single gate dam consisted of two abutments, 21 feet long and 23 feet high. The clear distance between abutments and piers being 40 feet.

The contract for the work was let to Jennings & Ross, of Toronto. Owing to the change in location, all materials and plant had to be portaged over the cofferdam. The main dam was finished first, then the single gate was finished.

The object of the work is to regulate the level of lake Nipissing. Work commenced May 10, and was completed October 27, 1915.

Total expenditure of work to date is $31,869.65.

BLANCHE RIVER, SOUTH BRANCH.

The south branch of Blanche river flows southeasterly above Charlton, Ont., which is the terminus of a spur line on the Timiskaming & Northern Ontario railway and at one time a transfer point for some of the traffic in the Elk Lake and Gowganda mineral districts. At present, there is an active development of lumbering and farming resources.

Since 1907, considerable work has been done to improve navigation, for a distance of 36 miles above Charlton, through a chain of lakes in the narrows and river stretches, etc. In the fall of 1914, the floating plant could not be moved down from the headwaters.

In April, 1915, the floating camps were moved down the river to the head of Kushog lake; later, the river was examined for log obstructions and the camps inspected at the end of the fiscal year.

Expenditure during the fiscal year, $144.

BLIND RIVER.

Blind River is a town of about 2,500 in population, situated on the north shore of the north channel of lake Huron, on the line of the Canadian Pacific railway, about 75 miles easterly from Sault Ste. Marie and Sudbury.

Work of repair was commenced 22nd May and was completed 11th November, 1915. It consisted in laying a new plank roadway, 14 feet wide, on top of the old

planking on the approach and part of the main wharf, and replacing a few badly decayed timbers in the framework of the superstructure. The pilework approach is 450 feet long and the main wharf is 234 feet long, the whole being in the shape of the letter "L". The total length of new roadway, 14 feet in width, constructed this season, is about 850 feet and it extends the whole length of the approach and all around the warehouse, the latter being 40 feet wide by 140 feet long.

The expenditure for the fiscal year is $983.77.

BONGARDS.

Bongards, in Prince Edward county, is situated on the bay of Quinte about 10 miles east from Picton. It is a rural community with a population of 200 within a radius of 4 miles. The existing wharf is privately owned but used by the public.

Authority was given to have the R. Weddell Company remove 4,500 cubic yards, *in situ*, at 28 cents per cubic yard.

Work was commenced on 16th August and was completed on 21st, when the dredge removed 2,566 cubic yards, *in situ*, of mud, clay and loose rock, forming a basin in front of and alongside of Bongards wharf. The basin is 320 feet long, varying in width from 30 feet at the ends to 80 feet on either side of the wharf, all to a depth of 12 feet.

Total expenditure for the fiscal year 1915-16, $741.44.

BOWMANVILLE.

Bowmanville, in the county of Durham, is situated on the north shore of lake Ontario about 40 miles east of Toronto. It is a privately-owned harbour. Bowmanville has a number of manufactories and is a growing town located on the Grand Trunk, Canadian Pacific and Canadian Northern railways. Population, 4,000.

Authority was given to have departmental dredge *No. 105* remove approximately 1,300 cubic yards, scow measurement, class "B" material, in improving, between the piers, the main entrance channel to the harbour. Work was commenced on 10th May and was completed on 6th July.

It was subsequently decided to have the dredge continue work of improving the channel and resulted in the removal of 22,988 cubic yards, scow measurement, of sand and mud. The navigable channel between the entrance piers was dredged to a width of 100 feet on the bottom, for a length of 1,300 feet, and from the piers outwardly into the lake for a length of 250 feet, varying in width from 100 feet at inner end to 210 feet at outer end, all to a depth of 14 feet below zero.

BRIGHTON.

Brighton, in the county of Northumberland, is situated on Presqu'ile bay, lake Ontario, at western entrance to Murray canal. It is 24 miles east of Cobourg and 20 miles west of Belleville and on the Canadian Pacific, Canadian Northern and Grand Trunk railways.

Authority was given to tear down the old warehouse on the existing wharf as same was in a most dilapidated condition, and the work was performed in June, 1915. Expenditure for fiscal year 1915-16 is $10.80.

BRUCE MINES.

Dredging.

This place has a population of about 600, and is situated on the Canadian Pacific railway, about 40 miles easterly from Sault Ste. Marie, on the north shore of lake Huron. It has a daily steamboat service to Sault Ste. Marie by two

steamboats, and is a regular port of call for steamship lines routeing through the north channel of lake Huron. The water-borne traffic consists of general merchandise, farm implements, general farm produce, live stock and lumber.

Lumber is exported in moderate quantities and farm produce in fairly large quantities. The principal industry of the place is the Martin International Trap Rock Company, which has a capital invested in plant of upwards of $500,000, but owing to unsettled finances during the past two years, it is now only operating on a small scale. The copper mine situated in the town, which formerly employed some 200 men, is again in profitable operation, owing to the present high price of copper.

The object of the dredging was to deepen the steamboat channel approaching the government wharf, and provide a turning basin, each to 16 feet in depth.

The channel is fairly well sheltered from storms except from the southeast, from which direction waves and shore currents will cause some refilling, but it is not anticipated that redredging will be necessary for at least ten years.

1913.

In the year 1913, a contract was awarded to the Soo Dredging & Construction Company, Limited, of Sault Ste. Marie, for the removal of 17,600 cubic yards, place measurement, of clay and silt, at the unit price of 32 cents per cubic yard. During that season, 16,971 cubic yards, place measurement, of clay and silt were removed, for which the contractors were paid $5,430.72.

1914.

During the season of 1914, it was found that the channel 75 feet wide, and turning basin 200 feet wide, as dredged the previous season, was not large enough to accommodate the boats calling, therefore, a second contract was entered into with the Soo Dredging & Construction Co., Ltd., of Sault Ste. Marie, Ont., for the removal of a further 45,000 cubic yards, place measurement, of silt and clay, at a unit price of 15½ cents per cubic yard, place measurement, which provided for an approaching channel 150 feet wide and a turning basin 350 feet wide, each 16 feet in depth below standard low-water level. No work was done nor expenditure incurred in 1914.

Dredging was commenced on May 10, 1915, and completed on June 10, during which period the channel and turning basin were completed according to the plans and contract, and 45,037 cubic yards, place measurement, of silt and clay were removed, for which the contractors were paid $6,980.74.

The expenditure for the fiscal year 1915-16, was $7,630.94.

BURLINGTON.

Burlington, in the county of Halton, is situated near the westerly extremity of lake Ontario, about 30 miles west of Toronto, on the Grand Trunk and Canadian Pacific railways. Population, 2,100.

The construction of a revetment wall, under contract with Mr. D. G. Stewart of Ottawa, was under way when a change in the location of the work was authorized at schedule rates, and an extension of time to the end of this season was granted for the completion of the work.

A change was also authorized in the location of the westerly end of the wall: the placing of additional talus and a change in the location of the cross-cribs to inside instead of outside of wall.

Work was resumed in May and closed for season in November, and consisted in the construction of a sea wall, having a length of 1,831 feet and a width of 14 feet, and, with the exception of placing 30 cubic yards of mass concrete, is entirely completed. There also remains to be done the placing of the stone talus on the outside of the wall.

Total expenditure for the fiscal year 1915-16 is $61,398.79.

BURLINGTON CHANNEL.

Burlington channel, in the county of Wentworth, is simply a cut through a low-lying piece of land known as Burlington beach, whereby vessels are enabled to reach the wharfs at the city of Hamilton.

A swing bridge is maintained across this channel for highway traffic for the cars of the radial railway between Hamilton and Oakville. This channel has a width of 120 feet, protected on either side by piers.

The bridge was opened for navigation on the 3rd April, and on the 20th December the lights were put out and navigation closed for the season.

Authority was given for placing a new snubbing post in the south pier, and work was duly performed in July, 1915.

Work of repair by day labour to south pier was commenced 5th and completed 8th August last, and consisted in renewing the decking where urgently required, and a lighting system was provided from the travelled road to the south pier, and standards for same were erected by the Hamilton Cataract Company. This work was completed in May last and arrangements were entered into with the Hamilton Cataract Company to provide the necessary current each season.

Total expenditure for fiscal year 1915-16 is $3,725.14.

Dredging.

Instructions were issued to have departmental dredge *No. 117* remove 16,100 cubic yards, *in situ*, from this channel and the approaches thereto. This work was rendered necessary by reason of shoaling having taken place, and it was decided to clean out the channel between the piers, to a depth of 18 feet, and the approach from the lake to 20 feet below low water.

The dredge commenced work on 4th November and suspended for the season November 10, on account of weather conditions, and before the whole two areas were covered. It is intended that the dredge will return next season to complete the work.

The material removed was 7,116 cubic yards of sand, scow measurement, from between the piers, for an extreme length of 620 feet, and an irregular width varying up to 100 feet.

CACHE BAY.

Located 26 miles west of North Bay, on the Canadian Pacific railway, on the north shore of lake Nipissing and on an arm of that lake called McLeod's or Cache bay. Population, 1,000.

The departmental dredge *No 112* worked from May 18 to October 23. During that period, the cut to the government wharf, which was started in 1913-14, was completed. The work performed consisted of a single cut, 5,687 feet long, with a bottom width of 30 feet.

52,130 yards of clay, scow measure, were removed and spoiled in deep water about 5 miles distant.

From surveys before and after excavation, the quantities removed, place measure, were 43,551 yards. The expansion factor, therefore, is 19·6 per cent.

The quantities removed below sub-grade, elevation 630·0, are 3,026 yards, place measure. The large quantities in this respect are due to low-water conditions on lake Nipissing.

COBOURG.

(This work is described in the annual report for 1915.)

Cobourg, in the county of Northumberland, is situated on lake Ontario, 73 miles east of Toronto, on the Grand Trunk, Canadian Pacific and Canadian Northern rail-

ways. It has a number of industries and is a thriving town of 5,300 population.

The sum of $10,000 was authorized for the reconstruction of the centre pier at this place, and on the 6th April, 1914, a contract for this work was awarded to Randolph Macdonald Co. for approximately $27,334.95, unit rates.

Work of reconstruction of the centre pier was resumed on 19th April and completed on 4th September.

Work of repair to the shore end of the centre pier was duly performed and consisted in the entire removal of 189 feet of the pier and the renewal, in concrete, of the superstructure for a length of 631 feet and a width varying from 18 to 31 feet.

Authority was given to make improvements to the east pier at this place, the work to be done by day labour, and the work to be done this season was located at a section, 320 feet long, on the east side of the east pier.

The construction work was commenced 25th May and was completed 30th November, 1915.

The work consisted in renewing in concrete the easterly side of the east pier for a length of 321½ feet with a width of 13½ feet, complete with walings, etc.; also placing a new pine floor in the lighthouse, 26 feet by 26 feet, and placing new posts and sheeting in same where required. The warehouse foundation was renewed and new doors, joists and sheeting provided, also clay, sand and stone-filling was placed from the north end of warehouse for a distance of 90 feet, a width of 22 feet and a depth of 5 feet. New decking, cross-ties and stringers were placed on the westerly side of the east pier for a length of 205 feet and a width of 14 feet; also some 60 feet of new pipe railings was placed in position.

Total expenditure for fiscal year 1915-16 is $23,656.13.

Dredging.

Authority was given to have the R. Weddell Company remove 24,000 cubic yards, *in situ*, at 20 cents per cubic yard.

Work was commenced on 13th October and was suspended for the season on 24th November. It consisted in clearing up, to a depth of 18 feet below low water, the point of the shoal area which extended to the east in the main entrance basin in the harbour, so as to provide the above depth between the east pier and the line joining the light on the outer end of the Langevin pier and the light on the outer end of the Grand Trunk Railway ferry-slip.

The area is not entirely down to grade, as work had to be suspended owing to rough weather. It is proposed to complete this work during the coming season.

In doing this work, the dredge removed 12,388 cubic yards of mud, clay and a small quantity of stone and old timber.

Total expenditure for the fiscal year, 1915-16, $2,637.05.

COLPOY'S BAY.

Colpoy's Bay, in county of Bruce, is situated on the west side of Colpoy's bay, an arm of the Georgian bay, about 3 miles from Wiarton. Population, 100.

Work of repair, by day labour, was commenced on 18th September and completed on 31st December, 1915, and consisted in tearing down the old superstructure for a length of 40 feet, also the placing of new substructure for the extension, 24 feet by 30 feet, and filling same with stone.

Total expenditure for fiscal year 1915-16 is $2,726.32.

CRAIGIE LEA.

Craigie Lea, district of Muskoka, is situated on lake Joseph and is a port of call on the steamboat route by boats operated by the Muskoka Lakes Navigation Company, who have their headquarters at Gravenhurst.

Work of repair was begun May 1, and completed June 15, 1915, and consisted in completing portions of the new wharf, which were unfinished at the end of the fiscal year 1914-15.

Total expenditure for fiscal year 1915-16, $116.45.

DOE LAKE.

Doe lake, district of Parry Sound, is situated 2½ miles southeast of the village of Sprucedale, a station of the Grand Trunk Railway system, Ottawa-Parry Sound division. The poulation of Sprucedale is 250.

Doe lake is connected with a chain of lakes all of which empty into the south branch of the Magnetawan river. This chain of lakes forms a navigable route of ten miles in length connecting with Sprucedale and with a summer resort named Katrine, the latter being adjacent to the Toronto-North Bay Division of the Grand Trunk Railway system in the township of Armour.

At the end of the fiscal year 1914-15, the two new wharfs on Doe lake were completed, with the exception of gravelling of the approaches.

Work was begun June 1, 1915, and the unfinished portion of the approaches was completed June 15, 1915.

Total expenditure for fiscal year 1915-16, $110.

DYER BAY.

Dyer Bay, in the county of Bruce, is situated on the east shore of the Bruce peninsula 16 miles from Lion's Head. Population, 200.

On 21st April last, the sum of $1,500 was authorized for wharf repairs, by day labour, at this place, and on 7th December last, a further sum of $200 was authorized for this work.

Work of repair, by day labour, was commenced on 1st July and was completed on 31st December, and consisted in repairing the cribs and filling in certain spaces with cribwork.

Total expenditure for fiscal year 1915-16 is $1,560.72.

ELK LAKE.

Elk lake, Nipissing district, a mining town in Northern Ontario, is the terminus of the branch of the T. & N. O. railway bearing the same name, and is situated on the Montreal river, 53 miles above Latchford.

In 1909, a rough cribwork wharf was built and taken over by the department, together with a pilework extension subsequently added.

The south portion of the original structure was reconstructed between August 26 and September 26. Sections, 16 by 227 feet, and 23 by 30 feet, were covered with 6 by 8-inch hemlock, which the department had on hand at another point, cribs were rebuilt and new round timber stringers provided where necessary. The slip was improved and a handrailing was erected along the Pine street approach.

Expenditure during fiscal year, $570.52.

FITZROY HARBOUR.

Fitzroy Harbour, a village in Carleton county, is located on the south shore of the Ottawa river, below Chats falls. It is at the head of navigation on Chats lake, and now has a flag station on the new Canadian Northern railway.

In 1914, a public wharf was built by contract, and dredging improvements have since been completed.

Owing to the fact that this structure is located at the foot of a steep clay hill, heavy cuts and fills were necessary. The action of the elements caused scouring in the former and natural settlement occurred in the latter.

In order to check the erosion, etc., the following repairs and improvements were effected September 28 to October 16: a stone protection wall 45 feet long, 8 feet high and 2½ feet wide at bottom and 1 foot at top, was built and backfilled with earth; an area of 1,680 square feet, backfill on landing-head, was regraded, where necessary, with gravel; a ditch 210 feet long by 3 feet wide was trimmed and paved with cobble stones; a new ditch, 1 foot by 2 feet by 140 feet, was cut, and an area of 2,550 square feet of side hill was trimmed and graded.

Expenditure during the fiscal year, $166.64.

Dredging.

Dredge *No. 108* worked from May 19 to October 28, whole season, 20,557 yards, scow measure, of sand, gravel, clay and boulders excavated. 502 cubic yards of this material was overcast and 25 cubic yards afterwards scowed away.

The proposed channel at this point, having a total length of about ¾ mile, to be improved 60 feet wide on tangents, 90 feet on curves and a turning basin at government wharf, tapering from 60 to 225 feet in width, was completed to grade 9 feet below L.W.L. 189·0. Of this, a portion, 380 feet long by 70 wide, was dredged in 1914-15. In addition to the above, a tapering cut was made at the entrance to the channel at the Upper Ottawa Improvement Company's wharf, to facilitate approaching and departing from that wharf.

On completion of dredging, a thorough sweep of the cuts was made and it was left in good condition, only very few scattered boulders shoaling to, say, one foot above grade, which could not be economically located and removed, remained in the channel. Inasmuch as the water surface, during the navigation season, is not expected to recede below elevation 190, owing to Upper Ottawa River storage there is a least depth of 9 feet in the improved boat channel to the public wharf at Fitzroy harbour.

FORT WILLIAM.

(This work is described in the annual report for 1915.)

Fort William, district of Thunder Bay, a city of 22,000 people, is situated at the mouth of the Kaministikwia river near the north west end of lake Superior.

The harbour consists of 13·02 miles of navigable channels in the Kaministikwia, McKellar and Mission rivers, which, for the most part, have been dredged to a depth of 25 feet below L.W.L., and for an average width of 500 feet. The harbour frontage available for lockage amounts to 22·20 miles, of which 7·57 miles have already been built up.

Mission River Revetment Wall.

Authority was received extending contract with the Thunder Bay Contracting Co. Ltd., for the construction and completion of 2,300 lineal feet of revetment wall adjacent to the entrance channel of the Mission river, the estimated cost, including inspection, being $305,000. On April 20 last, authority was received to proceed with this work. The substructure consists of stone-filled timber cribs 122·5 feet long, 28 feet wide, 26 feet 8 inches deep, extending to a depth of 6 inches below L.W.L. The superstructure consists of mass concrete 5·5 feet above L.W.L., and 11 feet wide, resting on concrete footing blocks placed along the outer face of cribwork. On June 18, authority was received: (1) To substitute stone riprap for earth filling in rear of wall. (2) To fill cribs entirely with stone, instead of with earth and stone. (3) To sheet the inside face of rear walls of cribs, in order to retain the filling, all to be done at the *pro rata* prices included in contract, at an estimated additional cost of $38,225.90. On June 30, authority was received confirming the *pro rata* prices for above works, and authorizing the dredging of crib-seats to be done under separate contract with the Great Lakes Dredging Company, Ltd. On July 20, orders were received to stop all work, as soon as the cribs, already sunk, were sufficiently ballasted to prevent their

being damaged by storm. Tenders were asked for and, on August 7, notice was received that the tender of the Thunder Bay Contracting Company Limited had been accepted at an approximate expenditure of $342,412.42, the work to include dredging. On August 19 and September 10, authority was received to place the two outer cribs, to be constructed this season, on a pile foundation, the piling to be driven under clause 36 of contract, at an estimated cost of $4,738.80. Operations were commenced May 6 and completed October 20. On October 17, settlement occurred in the wall extending from the inner end of the cribs placed on piles over the five cribs to the west of same. This settlement was due to soft bottom. On November 7, owing to an exceptionally heavy storm, the crib at extreme outer end of wall, which had been placed on a pile foundation, was damaged. On the 29th instant, the contractors were notified to rectify, at their own cost and expense, the five cribs that had settled on October 18 last.

Dredging.

Nos. 7339, 7170 and 10831, by the Great Lakes Dredging Co., Limited.

Dredging was performed in this harbour during the present season under contracts

Contract 7339.

Dredging under this contract, which consists in widening and deepening the Kaministikwia and Mission rivers, was performed by dredges *No. 5, No. 6, No. 8, Frank and Dominion,* from May 10 to June 4, and from July 17 to November 25 last, when it was closed down.

The total quantity removed, under this contract for the current fiscal year, is 1,701,744 cubic yards, scow measurement, consisting almost entirely of class "B" material. The quantities moved per dredge are as follows:—

		Scow Measurement.
Dredge *No. 5*	cubic yards.	392,034
" *No. 6*	"	235,733
" *No. 8*	"	402,988
" *Dominion*	"	565,976
" *Frank*	"	105,013
Total		1,701,744

The work performed was as follows:—

Kaministikwia river.—A quantity of 276,407 cubic yards was removed in deepening the greater part of this river between the Canadian Northern Railway Company's coal dock and Black's elevator, including the first area of land expropriated from the Grand Trunk Pacific Railway company for the West Fort turning basin.

A quantity of 321,181 yards was dredged in removing about 8 acres of the area included in the second expropriation of the West Fort turning basin, to the present available depth of 18 feet below L.W.L.

A quantity of 285,944 yards was removed in widening the river along its south bank, and in deepening where shoals had formed, from the Grand Trunk Pacific bridge to the Canadian Northern Railway coal dock.

A quantity of 184,104 yards was dredged in widening and deepening along the south side of river between the Grand Trunk Pacific bridge and the property of the Imperial Oil Company.

The bend above elevator "D" at the crossing of the city water mains, under this river, was somewhat improved, a quantity of 23,827 yards being removed.

A quantity of 29,159 yards was dredged in widening along the south side of river, from a point opposite elevator "D" to the Mission river.

Shoals in the river were removed over a considerable area extending from the Mission to the McKellar river, where the quantity dredged was 57,946 yards, and from the McKellar river, particularly along the southerly half of the Kaministikwia river, to Canadian Pacific Railway slip No. 1 the quantity removed being 147,392 yards.

A quantity of 28,228 yards was dredged in removing certain shoal spots above 21 feet in the northerly half, or old portion, of the present entrance channel to this river.

In addition, small shoals were removed fronting the Western terminal elevator, Fort William elevator, Empire elevator and elevator "E," the quantities removed being 1,199, 570, 5,590 and 150 cubic yards, respectively, or a total of 7,509 yards.

The total quantity removed in widening and deepening under this contract, in the Kaministikwia river alone, during the present season, amounted to 1,361,697 cubic yards, scow measurement.

Mission River.

Widening along the south side of the Mission river, extending from its confluence with the Kaministikwia to a point opposite the easterly limit of lot 5, island No. 2, was practically completed this season, the quantity removed being 180,808 yards.

Deepening was performed in this river from the Fort William coal dock to the easterly limit of Grand Trunk Pacific slip No. 3, the quantity removed being 48,058 yards.

Widening and a small amount of deepening was performed along the north side of this river opposite the Grand Trunk Pacific turning basin, the quantity dredged being 99,159 yards.

Certain shoal spots in the Mission river entrance channel were removed, the quantity dredged being 12,022 yards.

The total quantity removed in widening and deepening this river alone, under the above contract this season, is 340,047 cubic yards, scow measurement.

In connection with this contract, it might be stated that prior to the current fiscal year a total quantity of 11,232,321 cubic yards, scow measurement, had been dredged at a total cost of $1,856,586.05, so that the total quantity removed to date under this contract is 12,934,065 cubic yards, and the total expenditure $2,122,595.56.

Of the total quantity of 3,882,025 yards which was authorized on July 14, last, for removal under this contract, the balance to be dredged at the end of the current fiscal year, is 2,522,037 yards, of which 1,493,819 yards is to be dredged in connection with the extension authorized to the West Fort turning basin.

The unit prices governing in this contract are as follows:—

Widening.—Rock, $2.40 per cubic yard, scow measurement; all other material, 10¼ cents.

Deepening.—Rock, $2.85 per cubic yard, scow measurement; all other materials, 22½ cents.

Extra haul.—1 cent per cubic yard per mile over 3½ miles.

Contract 7170.

Dredging under this contract, which provides for the excavation of Grand Trunk Pacific slip No. 2 to a depth of 25 feet below L. W. L., was performed by dredges *Frank, No. 6* and *Dominion*, at various times during the season. Operations commenced on July 26, when dredge *Frank* started work, and closed down on December 4, last.

The total quantity removed was 342,051 yards consisting almost entirely of class "B" material. The quantities moved per dredge are as follows:—

		Scow Measurement.
Dredge *No. 6*	cubic yards.	32,735
" *Frank*	"	271,036
" *Dominion*	"	38,280
Total		342,051

In connection with this contract, it might be stated that prior to the current fiscal year a total quantity of 6,782,197 yards had been dredged, at a total cost of $1,458,682.13, so that the total quantity removed to date under this contract is 7,124,248 yards, and the total expenditure is $1,515,089.16. Of the quantity authorized under this contract, there yet remains for removal a balance of 12,415 cubic yards, scow measurement, which authority can well be utilized in removing shoals over the area covered under this contract.

The unit prices governing in this contract are as follows: Rock, $2.85 per cubic yard, scow measurement; other materials, 16 cents; extra haul, 1 cent per cubic yard per mile over 3½ miles.

Total expenditure for the current fiscal year under this contract, $56,407.03.

Contract 10831.

Dredging under this contract, which provided for the widening of the present entrance channel of the Kaministikwia river from 300 feet to 600 feet, with a depth of 25 feet, was performed between June 5 and July 16, and from September 7 to October 11, dredges *No. 6, No. 8* and *Dominion* being engaged during the former period, and dredges *No. 6, No. 8, Frank,* and *Dominion* being engaged during the latter period.

The total quantity removed under this contract, which was completed on October 11, was 742,202 yards, scow measurement, consisting of class "B" material, or 635,198·3 yards, place measurement, the contract being based on the latter method of payment.

The quantities dredged by the above dredges in this work were as follows:

		Scow Measurement.
Dredge *No. 6*	cubic yards.	116,749
" *No. 8*	"	194,000
" *Frank*	"	41,878
" *Dominion*	"	389,575
Total		742,202

The area dredged averaged slightly over a mile in length, and was 300 feet wide, and on completion of this work it was found by sweeping that a full depth of 25 feet below L. W. L. had been obtained.

The unit price governing in this contract was as follows: Place measurement, sand and clay, per yard, 25 cents.

The total expenditure for this contract was $158,799.58.

Synopsis of quantities of material removed by the various dredges, operating in this district on the above contracts, for the current fiscal year:—

		Scow Measurement.
Dredge *No. 5*	cubic yards.	392,034
" *No. 6*	"	385,217
" *No. 8*	"	596,988
" *Frank*	"	417,927
" *Dominion*	"	993,831
Total		2,785,997

Synopsis of quantities removed by dredging under the above contracts in accordance with the respective locations of areas dredged:—

Kaministikwia River.

		Scow Measurement.
Above Canadian Northern Railway coal dock	cubic yards.	276,407
West Fort turning basin	"	321,181
Grand Trunk Pacific basin to Canadian Northern Railway coal dock	"	285,944
Grand Trunk Pacific bridge to Imperial Oil Company.	"	184,104
City water mains crossing	"	23,827
Elevator "D" to Mission river	"	29,159
Mission river to McKellar river	"	57,946
McKellar river to Canadian Pacific Railway slip No. 1.	"	147,392
Northerly half of entrance channel	"	28,228
Western terminal elevator	"	1,199
Fort William elevator	"	570
Empire elevator	"	5,590
Widening entrance channel	"	742,202
Elevator "E"	"	150
Total		2,103,899

Mission River.

From Kaministikwia river to point opposite easterly limit, lot 5.	180,808
Fort William coal dock to Grand Trunk Pacific slip No. 3	48,058
Entrance channel	12,022
Grand Trunk Pacific slip No. 2	342,051
Opposite Grand Trunk Pacific basin	39,159
Total	682,098

Grand total quantity of materials moved under dredging contracts for season, 2,785,997 cubic yards, scow measurement.

As a result of the soundings taken, the following governing depths below L.W.L. are found to obtain in the various portions of the harbour, viz:—

Kaministikwia river.—Southerly half of the entrance channel, limiting depth 24·6 feet, general depth 27·0 feet; northerly half of entrance channel, limiting depth 20·0 feet, general depth 23·0 feet; from Empire elevator to Canadian Pacific railway bridge, limiting depth 20·5 feet, general depth 23·0 feet; from Canadian Pacific railway bridge to Mission river, limiting depth 20·6 feet, general depth 21·5 feet, from Mission river to bend in river above elevator "D" where city mains cross river, limiting depth 22·0 feet, and general depth 25·0 feet; at water works crossing of river, limiting depth 19·3 feet, general depth for a channel width of 175 feet, 23·0 feet; from water works crossing to Grand Trunk Pacific bridge, limiting depth 25·0 feet, except for one comparatively small shoal on south shore over which the water is 19·8 feet deep; from Grand Trunk Pacific bridge to upper end of Canadian Northern railway coal dock, limiting depth, 23·7 feet, except for channel through bridge where limiting depth is 19·9 feet, general depth over this area 25·0 feet; from Canadian Northern railway coal dock to Black's elevator over West Fort turning basin, limiting depth 22·1 feet, although general depth is slightly over 25·0 feet; limiting depth over area extended in West Fort turning basin during the past season is 18·0 feet.

Mission river.—Southerly half of entrance channel, limiting depth 20·1 feet; northerly half of entrance channel, limiting depth 19·0 feet; general depth over entrance channel, 23·0 feet; from entrance channel to confluence with the Kaministikwia river, limiting depth along southernly half of river 23·0 feet, except for a small shoal 21·0 feet deep near said confluence; along northerly half of river, limiting depth 21·9 feet. The general depth in the Mission river is between 24 and 26 feet. *Grand Trunk Pacific turning basin:* limiting depth 19·1 feet over small shoal near southerly

limit of basin, general depth 24·0 to 28 feet. *Grand Trunk Pacific slip No. 1:* limiting depth 21·6 feet, general depth 24·0 feet. *Grand Trunk Pacific slip No. 2:* limiting depth 23·4 feet, general depth 24·0 feet. *Grand Trunk Pacific slip No. 3:* limiting depth 22·4 feet, general depth 23·6 feet.

McKellar river.—Limiting depth 23·9 feet, general depth 26·0 to 27·0 feet.

From the above statement it will be seen that a considerable amount of deepening is still required to be done in the local harbour, and particularly does this conclusion apply to the entrance channel of the Kaministikwia and Mission rivers, which should both be deepened to 25·0 feet below L.W.L. during the coming season in order to provide for safe navigation. In addition, the removal of various shoal areas, particularly in the Kaministikwia river between the Empire elevator and the Mission river, should be attended to. Practically all widening that is necessary in this harbour has been attended to, with the exception of (1) The removal of a certain area of land in the Mission river opposite Grand Trunk Pacific slip No. 3, at present occupied as a service ground by the Thunder Bay Contracting Co., Limited, in connection with their construction contracts with this Department. (2) The removal of a small portion of land in the Kaministikwia river where the city water mains cross, and (3) The removal of about fourteen acres of land in connection with the authorized extension to the West Fort turning basin. The first and third of these items should be proceeded with during the coming season, but it will be impossible to attend to the second item until the city of Fort William lowers the water mains referred to or otherwise alters their location.

With regard to the dumping grounds, a change was made during last October whereby a saving in haul, for all material brought down by the Mission river, of one mile has been effected. A considerable saving will likewise result from the fact that during the past winter, new dumping grounds have been located for material to be dredged in the lower half of the Kaministikwia river. As regards the probable duration of the improvements effected, continuous work will likely be necessary to keep the dredged areas to proper grade.

FREDDY CHANNEL.

Freddy channel divides the mainland and Portage island and is located in the township of Gibson, Muskoka district, about 10 miles by boat from Midland.

The surroundings consist of many islands, occupied by tourist cottages and summer hotels, which are accessible to the main steamboat channel between Penetanguishene and Parry Sound. One of the large summer resorts in the vicinity is Go-Home-bay.

The object of the dredging is to deepen the channel by the removal of sand, clay and rock, which, on completion, will afford safe navigation for supply boats and motor launches.

The channel is well sheltered from storms, but the water level is subject to variation in elevation caused by adverse winds.

In the year 1915, an agreement was entered into with the Penetanguishene Dredging Company, Limited, for the removal of 4,200 cubic yards, place measurement, of mud and sand, at a unit price of 40 cents per cubic yard. The work done covered shoal No. 1, 409 feet in length and 50 feet in width, and dredged to a depth of 9 feet below zero of Georgian Bay elevation 580·0. On completion of shoal No. 1, the dredge outfit was removed to Penetanguishene, consequently the whole amount contracted for was not removed. For the work done, the contractors were paid $1,044, balance due them $116.

The work was commenced September 14, and continued up to October 8, 1915, when whole plant was removed to Penetanguishene to begin dredging at that place.

The expenditure for the fiscal year 1915-16, was $1,122.

GANANOQUE.

Gananoque, county of Leeds, on the river St. Lawrence, population, 3,500, is a manufacturing centre.

The improvements to wharf built during 1913-14, consisted of building a floating platform for landing small boats, re-erection of light standards and lights, building of sidewalk and fence, close-sheeting all around wharf, painting over all faces, heavy rock fill at juncture of wharf and shore to form breakwater to prevent scour, and a few minor repairs.

Work was executed April 1 to December 15, 1915.

Expenditure, $1,462.

Dredging Middle Channel, through the Thousand Islands.

The work consisted of sweeping the middle channel in certain parts to a depth of 18 feet below extreme low water or elevation 225·0.

Parts swept were from "The Punts" to the foot of Camelot island passing around the head of Whitewaist island; a portion of the channel northwest of foot of Wallace island, locating a small shoal; from a point off Prince Regent island (Gananoque harbour light) to a point opposite Grand View park; locating the shoal across from Rockport, northwest of Yeo Island; shoals off Whiskey island and shoals off Slim island, east of Grenadier light. A 300-foot sweep, 19 feet deep, was towed down stream by two row boats, speed limited to keep weights nearly perpendicular.

Work was done from August 1 to September 4, 1915.

Expenditure, $742.

GOAT ISLAND.

Dredging.

Goat island is the terminal port of the Algoma Eastern railway situated opposite the town of Little Current, on the narrow strait connecting Georgian bay and the north channel of lake Huron, known as the Little Current channel. This railway was completed in 1913, and extends inland to Sudbury, a distance of 80 miles, passing through timbered and mineral land which promises to be much developed thereby. The traffic offering at present consists principally of coal, of which immense quantities are required in connection with the reduction of nickel at Copper Cliff, and for other industries at Sudbury, Espanola, Victoria Mines, etc. It seems to be of superior strategic location for the economic importation of coal to supply the Canadian Pacific railway and Canadian Northern railway in the Sudbury district. The terminal consists of tracks and switching-yard layout, with a capacity of about 400 cars, engine-house, coal chute, repair shop, water works, etc., a coal wharf and storage ground for 75,000 tons of coal, over which there is a large coal hoist, with a capacity of about 200 tons per hour, and a commercial wharf for the handling of package freight. These wharves are, respectively, 680 feet and 400 feet long, constructed parallel with the channel and in line with each other, and as traffic warrants the company proposes to fill in the intervening space of 700 feet, thus making a wharf frontage 1,780 feet long. During the navigation season of 1915, about 200,000 tons of coal also a considerable quantity of package freight were handled over these wharfs.

Little Current is the most important town on the Manitoulin island, and has a population of about 1,000. There is much activity at this point, as boats which ply between Georgian bay and the north channel of lake Huron are continually passing, and most of them make it a port of call.

The object of the work is to provide an approach to the wharfs of the Algoma Eastern Railway Company, for deep-draught vessels and to widen the through channel. When the whole of the improvements proposed to this channel are completed, it is expected nearly all boats, including the large freighters plying between

lake Superior and Georgian bay ports, will adopt this route, which is practically the same length, but much more protected than the open lake Huron route. The work performed under this contract is of a semi-private nature, as its immediate urgency was to provide approaches to the Algoma Eastern railway terminals, but it is at the same time, exclusive of the interest of the railway, an important improvement for the general navigation of the channel.

1913

On September 2, 1913, a contract was entered into with The Soo Dredging & Construction Co., Ltd., of Sault Ste. Marie, Ont., for the dredging of 23,500 cubic yards, place measurement, of rock, to a depth of 22 feet below standard low-water level, at a unit price of $2.90, per cubic yard, to be completed by the 15th of December, 1913. Work was commenced on September 1, and was closed for the season on December 15, 1913. The area under contract consisted of a section lying in front of the Algoma Eastern railway Company's coal wharf, 400 feet in length with an average width of 150 feet. During the season, 19,867 cubic yards, place measurement, of rock, were removed, and of this quantity 17,883⅔ cubic yards were scowed away a distance of about two miles, and 1,983⅓ cubic yards were cast over the wharf to form filling behind. Estimates were returned in favour of the contractors for the performance of this work amounting to $57,019.30, and the total expenditure for the fiscal year of 1913-14 was $58,613.82.

1914

Instructions were issued that an Order in Council had been passed, granting an extension of the contract to December 15, 1914, and authorizing the expenditure of $50,000, which had been voted by the previous Parliament for dredging at this place. Accordingly, additional work was laid out, consisting of an area 100 feet in length on the west side and an area 390 feet in length on the east side of and adjoining the previous year's work.

On September 27, that an Order in Council had been passed on the 11th of September, 1914, granting authority for the removal of an additional 17,240 cubic yards, place measurement, but it was provided as a condition to the acceptance of this additional work that the contractors await payment therefor until Parliament provided the necessary funds at its next session. The area laid out to be dredged in connection with this last authorization consisted of a section 430 feet in length, lying in front of the Commercial wharf, and 14,597 cubic yards, place measurement, were removed from it. In each of the several areas referred to, the length is measured easterly and westerly along the line of the wharfs, and the width is variable, extending southerly from the line of the faces of the wharfs to the 22-foot contour line.

Work was commenced for the season of 1914, on 19th June, and was suspended on December 15, 1914.

During the season, 29,782 cubic yards, place measurement, of limestone rock were removed, of which 27,935 cubic yards were scowed away a distance of about two miles, and 1,847 cubic yards were cast over into the filling behind the Commercial wharf. For the performance of this work progress estimates were returned in favour of the contractors amounting to $85,813.70, and the total expenditure for the fiscal year of 1914-15 was $89,297.06.

1915.

Instructions were received that an Order in Council had been passed on the 4th of May, granting authority to further extend this contract (No. 9589) with the Soo Dredging & Construction Company, Ltd., and that the work involved in this authorization comprised the removal of a quantity not to exceed 21,132 cubic yards, place measurement, of rock, and 1,910 cubic yards, place measurements, of clay, gravel, hardpan and other materials, at the contract unit rates of payment of $2.90 and 30 cents

per cubic yard, place measurement, respectively. An area was laid out 2,500 feet in length, extending from the westerly end of the Algoma Eastern Railway Company's terminal wharfs easterly to the swing bridge, across the Little Current channel, including all the previous areas covered, and additional areas to cover the whole of the original scheme of improvement asked by the railway company.

Work was commenced for the season on May 19, and was completed on 3rd September, 1915, during which period 20,897·2 cubic yards, place measurement, of rock and 1,810 cubic yards, place measurement, of clay, gravel, hardpan, etc., were removed. The cost of the season's work was $63,661.19.

The whole area was carefully sounded and proved by sweeping to be properly completed to grade depth.

The total expenditure, from the commencement of this work in 1913, to its completion, is $211,572.07.

GODERICH.

Goderich, in the county of Huron, is situated at the mouth of the Maitland river which empties into Lake Huron 133 miles north-west of Toronto on the Canadian Pacific and Grand Trunk railways. Population, 4,500.

Work on the extension of the southwest breakwater was resumed in April and closed for the season in November.

Up to date, berths have been dredged, five caissons placed, the superstructure constructed and riprap placed, also three caissons constructed ready to be sunk in position.

Work of renewal of the north pier, south pier and river breakwater was commenced on 11th May and was completed on 31st March, 1916, and consists of the renewing of the decking on the north and south piers and river breakwater and the placing of twelve new reinforced concrete mooring-posts.

Total expenditure for the fiscal year 1915-16 is $224,824.12.

Dredging.

Authority was given to have Messrs. Jennings & Ross resume work on the contract awarded to them on 1st June, 1914, for the removal of 148,700 cubic yards, scow measurement, at 16 cents per cubic yard; the quantity to be excavated this season being 55,021 cubic yards.

Work was resumed on 27th April and was completed on 28th August.

The dredging consisted in cleaning up the channel between piers to a depth of 21 feet, and the outer entrance of the harbour to a depth of 22 feet. Work was carried on over an area 2,000 feet in length, varying in width from 100 feet between channel piers to 400 feet in the outer entrance channel, 1,080 feet of this length being to a depth of 21 feet and the remaining 920 to 22 feet below zero.

In doing this work this season, 50,268 cubic yards scow measurement, of hard pan, boulders, gravel and clay were removed.

GRAND BEND.

Grand Bend, Lambton county, is a village situated on the easterly shore of lake Huron, at the mouth of the Sauble river, about 13 miles from Parkhill, the latter place being the nearest railway station. It is also 15 miles from Exeter, and about 30 miles south of Goderich.

Work of repair by day labour was commenced May 10 and was completed August 31, and consisted in the reconstruction from water level of the outer 32 feet of north pier; the filling up with stone of the outer 140 feet of north pier; the placing in position of 3, 1¼-inch tie-rods 23 feet long to strengthen the structure where same had bulged, and the placing of 15 cords of stone in the south guard pier.

Total expenditure for fiscal year 1915-16 is $1,098.26.

HAILEYBURY.

Haileybury, on the west shore of lake Timiskaming, Nipissing district, is the chief port on the line of the Timiskaming and Northern Ontario railway, and 5 miles from Cobalt, the heart of an important mineral district.

The construction of a public wharf at this place was started in 1901 and continued intermittently until 1910, when it became necessary to undertake the extension and raising of the dock. During the past two years, a market dock and a railway dock have also been built. For a number of years, dredging improvements have been carried on.

During the past year, certain repairs were made to the main shed and flooring of same. The extensive back fill from the market dock to the market building and around to Farr avenue was completed and the market dock was finished. The railway dock, a cribwork structure, 249 lineal feet was built and the railway siding completed.

Expenditure during the fiscal year, $9,994.43.

Dredging.

Departmental dredge *No. 118* worked from August 11 to September 28. During this period, the inner portion of the harbour, opposite the market wharf, was dredged to grade elevation 572, and a cut was made to bed rock, at elevation 574, immediately along the front of the market wharf and a part of the new railway wharf. The material excavated consisted of 4,826 yards of clay, scow measurement, and 1,521 yards rock and hardpan; 913 yards of the latter being overcast, owing to low stage of the lake, and to assist ballasting of cribwork.

Shipyard.

The Haileybury shipyard, located 2 miles north of Haileybury harbour, on lake Timiskaming, has been in use since 1910. The dredging plant and construction plant on these waters are hauled out on two sets of shipways and overhauled yearly. A public highway, electric car service and Timiskaming and Northern Ontario railway spur afford easy access to this property.

During the past year, the tools and floating plant for construction, by day labour, on lake Timiskaming and other points in the district were kept in repair and stored at the yard; cost of upkeep is included in the outlay for each work. Repairs were made to the coal trestle, shipways, trucks and capstans.

The two dump scows attached to Public Works dredge *No. 118* were hauled on ways and repaired in the spring; further repairs were made in August and September. Public Works tug *Dora* was overhauled, repaired and improved. Four carloads of coal were unloaded on private siding, hauled and transferred to storage bins on the service dock at the shipyard. The floating plant required considerable attention during the winter months.

The heavy ice had to be chopped down from braces of dock when lake Timiskaming storage was drawn down.

The shipways are 15 feet wide, 395 feet long, and 10 feet wide and 316 feet long, respectively. The pilework service dock measures 25 by 100 feet; it has coal bins, at the shore end, with a capacity of 100 tons; the pilework coal trestle, 300 feet long, is built for 1-ton dump cars, operating by gravity. A shed, 22 feet wide and 100 long, accommodates the lumber stock and carpenter shop; other small sheds are used for the smithy, oil storage, etc. A building 65 by 20 feet is used for the office, living quarters and additional storage.

Expenditure during the fiscal year, $3,285.02.

Dredging.

Departmental dredge *No. 118* worked at the shipyard October 30—November 3rd, improving the basin near the shipways to give more space in winter berths for floating plant when lake Timiskaming storage basin is at low level.

722 yards clay, scow measure, were removed in 255 lineal feet of cutting. From surveys, before and after dredging, the corresponding place measure is, very roughly, 545 yards, from which the expansion factor is 32 per cent.

HAMILTON.

Hamilton, in the county of Wentworth, is situated on Burlington bay, an inset at the westerly extremity of lake Ontario and is a station on the Grand Trunk and Canadian Pacific railways. Population, 100,000.

On 21st April, 1915, the sum of $60,000 was authorized for harbour improvements at this place.

On the 10th March, 1913, a contract for wharf construction and dredging was awarded to Messrs. J. W. Hennessy, W. H. Poupore, W. H. Dwyer and John Taylor (Ottawa Contractors), for the sum of approximately $178,000, unit rates.

Work on the retaining wall was resumed in April and was completed 31st December, 1915.

The following extras were authorized in connection with this work: Extension of time for completion to 11th November, 1915,—increase in length of wooden piles where required;—substitution of Lackawanna for Hunter steel piling,—increasing length of every 10th steel pile to 40 feet at 4·6 cents per lb.,—reinforcing of revetment wall at approximately $6,400, or cost, plus 10 per cent,—repairs to revetment wall at $750, being cost, plus 10 per cent,—sheet piling, anchor blocks, etc., at foot of Wellington street at $1,300, and increasing every 5th steel pile to 40 feet.

The work consisted in the construction of a wharf or retaining wall 1,566 feet in length, composed of wooden and steel piling substructure, and concrete superstructure having a width of 10 feet; also the dredging of certain areas to a depth of 16 and 17 feet, respectively.

The construction of a line of piling 60 feet long anchored at the back and protected by stone talus in front is also completed.

Total expenditure for fiscal year 1915-16 is $18,507.84.

Dredging.

Authority was given to have departmental dredge *No. 117* resume the work of widening and deepening the channel at the Oliver Plow Works.

The dredge started on 17th May and stopped for the season on 3rd November, after having removed 229,058 cubic yards, scow measurement. The removal of this material resulted in the widening of the channel in front of the Oliver Plow works, from 325 feet to 610 feet, for a length of 1,770 feet, and to a depth varying from 19 to 20 feet below zero, also the widening of the channel leading to the International Harvester Company, from 200 feet to 320 feet, for a length of 1,700 feet, and to a depth varying from 19 to 20 feet below zero.

Authority was also given to have departmental dredge *No. 117* remove material at Brown's wharf, Wabasa park, in order to facilitate the landing of the ferry at that place. The dredge worked from 10th to 17th June, removing 12,169 cubic yards, scow measurement, from an irregular area about the outer end of the wharf. The maximum length of this area is 290 feet and the maximum width 100 feet, all to a depth of 16 feet below zero.

Some old piling at the foot of Hughson street was removed; this piling was out in the bay in front of the Hamilton Rowing Club and was a serious menace to the safety of small craft. Arrangements were entered into with Mr. D. G. Stewart, who duly performed the work in September last at a cost of $700, when twenty-one piles were removed also three piles of stone surrounded by old cribs and two long cribs one foot wide and two feet high, all to a depth of 8 feet below zero.

HAWKESBURY.

Hawkesbury, population, 4,500, is located on the south shore of the Ottawa river, about 58 miles below the city of Ottawa.

In order to restore the navigable channel to the town wharf, known as Higginson's wharf, it became necessary to remove waste pulp which has accumulated in the past 14 years in the bay, between the Riordon pulp mills and Cobb's Tail island. Departmental dredge *No. 103* operated from June 19 to November 12, under an agreement with the Riordon Pulp and Paper Co., Ltd. During this period, the total yardage removed was 61,497, including 10½ per cent of clay, sand, gravel, boulders and stray logs. 55,043 yards waste pulp were removed, and 5,881 lineal feet of single cut to a grade of 10 feet was accomplished. Owing to the nature of the material, the quantity of waste pulp removed, place measure, is indeterminate. Soundings taken in March, 1916, show that the work, while incomplete, is of material advantage.

To complete the improvement, a channel ½ mile long from 100 to 140 feet wide, to the town wharf, with a least depth of 10 feet grade elevation 118, is required. The apparent material to be removed, allowing 1 foot for sub-grade, includes 77,000 yards waste pulp, 24,000 sand and gravel, 3,000 clay and 3,000 yards hardpan and boulders.

HILTON.

Hilton is a village situated on the northerly side of St. Joseph island, in the north channel of lake Huron, and is distant about 35 miles southeasterly from Sault Ste. Marie, containing a population of about 200 people.

Work of repair was commenced 4th August. The work performed consisted of the construction of a retaining wall along the southeast side of the inner portion of the wharf, composed of stone-filled cribwork 81 feet long by 14 feet wide, with a total depth of 13 feet, and the filling in with stones and gravel of the area between this and the northwesterly side of the wharf, and in the rear of the newer cribwork and concrete landing place. This area is about 80 feet square, and the depth of filling averages about 10 feet. It was formerly filled with rough open cribwork.

The expenditure for the fiscal year is $2,497.46.

HOLLAND RIVER.

Holland river forms the boundary between the township of W. Gwillimbury, in Simcoe county, and East Gwillimbury and King, in York county, but the village of that name is about 2½ miles east of the river in York county and 6 miles south of Cook's bay, which is the south arm of lake Simcoe. Population, 450.

The work of making repairs by day labour was duly performed on 15th November, and consisted in properly securing the decking timbers on the wharf.

Total expenditure for fiscal year 1915-16 is $4.95.

HONEY HARBOUR.

Deer Island.

Deer Island channel divides Deer island and the mainland, and is located on lot No. 15 in the township of Baxter, Muskoka district, about 13 miles by boat from Midland and Penetanguishene, and 16 miles westerly from Bala station, on the Canadian Northern and Canadian Pacific railways.

The immediate vicinity is surrounded by summer cottages and hotels, which are reached by motor boats from the main steamboat channel between Penetanguishene and Parry Sound, distant about three-fourth of a mile to the east. The population consists entirely of summer tourists.

The object of the dredging was to deepen the channel by the removal of two rock shoals, thus affording safe navigation for motor launches and small supply boats.

The channel is well sheltered from storms, but the water is subject to rapid rise and fall occasioned by winds from the west and northwest.

In the year 1915, an agreement was entered into and this work awarded to Messrs. Morgan & Toole, of Midland, for the removal of 486 cubic yards, place measurement, of rock, at a unit price of $6.25 per cubic yard, from the two shoals, the dimensions of which, collectively, are 165 feet in length, 30 feet in width and dredged to a depth of 5 feet below Georgian bay zero elevation 380·0. For this work, the contractors were paid the sum of $3,037.50.

The work was commenced on July 15, and completed November 12, 1915, during which period the channel was completed according to the plans and contract.

A special feature in the carrying on of the work was that a dam was built across the channel each end of the shoals, and after area inside was pumped out, the rock was removed by hoist and deposited on the shore well back from the sides of the channel.

The expenditure for the fiscal year 1915-16 was $3,037.50.

Duff's Channel.

Duff's channel divides island No. 136 and the mainland, and is located in the township of Baxter, district of Muskoka, distant three-fourth mile south of the main steamboat channel, Penetanguishene to Parry Sound, and half mile south of the South Honey harbour channel and 12 miles from Midland.

The surrounding shores are largely occupied by summer hotels and cottages and are accessible from the steamboat channel by motor launches. The population consists entirely of summer tourists.

The object of the dredging was to deepen the channel by the removal of sand, which has slipped in from the overcast work done in the year 1913, thus affording safe navigation for large supply boats and motor launches.

The channel is well sheltered from storms, but the water level is subject to variation in elevation caused by adverse winds.

In the year 1915, an agreement was entered into with the Penetanguishene Dredging Co., Ltd., of Penetanguishene, Ont., for the removal of 1,043 cubic yards, place measurement, of mud and sand at a unit price of 70 cents per cubic yard, the work covering scattered deposits in a channel 1,300 feet in length, 50 feet in width, and securing a depth of 8 feet below zero of Georgian bay elevation of 580·0, for which the contractors were paid $730.10.

The work was commenced September 2, and completed on September 14, 1915, during which period the channel was completed according to the plans and the agreement.

The expenditure for the fiscal year 1915-16 was $772.60.

JUNIPER ISLAND.

(This work is decribed in the annual report for 1915.)

Juniper island, in the county of Peterborough, is located in Stoney lake, and is the distributing centre for supplies for tourists and cottagers using the east part of Stoney lake as a summer resort. It has a post-office, store and pavilion, and is on the Trent Valley canal system.

On 27th September last, the sum of $285 was authorized for the construction, by day labour, of anchor piers for the floating wharves at this place; on 25th November, 1915, a further sum of $75 was authorized for this work.

Work of improvement was commenced on 19th October and was completed on 12th November, and consisted in the construction of 4 anchor piers, 9 feet high, having a width at base of 8 feet, and at top of 2 feet by 4 feet. The floating piers were anchored to same during the winter months.

Total expenditure for fiscal year 1915-16 is $363.77.

KAGAWONG.

Kagawong is a village of 200, situated on the north shore of Manitoulin island, about 12 miles easterly from Gore Bay.

Work of repair was commenced 20th May and it was completed 22nd June, 1915.

The work consisted of replacing the worst of the decayed planking and stringers on the portions most used, having a total area of about 4,600 square feet.

The expenditure for the fiscal year is $203.31.

KENSINGTON.

Kensington is a summer resort, situated about 3 miles southerly from the Canadian Pacific Railway station of Desbarats and about 30 miles easterly from Sault Ste. Marie, on the north channel of Lake Huron.

Work of repair was commenced 11th September and was completed 24th September, 1915.

The work consisted of the renewing of the planking and timbers, where badly decayed and missing, over an area of about 14 feet by 50 feet.

The expenditure for the fiscal year is $192.73.

KINCARDINE.

Kincardine, in the county of Bruce, is situated on the east shore of lake Huron, 100 miles north of London and 160 miles west of Toronto, on the Grand Trunk railway. It has steamship connections with Cleveland and Sault Ste. Marie, and has some important industries. It is located in a fine agricultural section and has a population of 2,500.

Authority was given to have the Marlton Dredging Company remove shoals in the inner harbour and between the piers, at the rate of 35 cents per cubic yard, scow measurement; the estimated quantity being 6,500 cubic yards.

Work was commenced on 25th June and was completed on 2nd July, when a shoal 150 feet in length and 50 feet in width, between the entrance piers, was removed to a depth of 16 feet below zero; another shoal 390 feet by 28 feet in the inner harbour was removed to a depth of 16 feet below zero; thereby permitting the fishing fleet to proceed directly to the east wharf.

In doing this work, 6,511 cubic yards of blue clay were removed.

Total expenditure for the fiscal year 1915-16 was $2,302.32.

KINGSTON.

Combined roadway and wharf across the Cataraqui river.

The city of Kingston, Frontenac county, on lake Ontario, is an educational and manufacturing centre, with a good harbour and shipping facilities; population, 19,000.

Construction of a combined roadway and wharf across the Cataraqui river was built by the Thunder Bay Contracting Company, who succeeded Fallon Bros. as contractors.

The work done during the fiscal year 1915-16 is as follows:—Removal of timber superstructure of existing bridge; removal of crib piers, dredging, etc.

The development of the inner harbour in the Cataraqui river is urgently required for transhipping grain and freight. To provide bridges, roadway and sidewalk for vehicular and pedestrian traffic from Barriefield and country east of Cataraqui river to Kingston.

Work was done April 1, 1915, to March 31, 1916.

Total expenditure 1915-16, $101,762.75.

Highway bridges.

East end bridge.—The erection in place of all structural steel for 208 feet fixed-span bridge, flooring, etc.

West end bridge.—Erection in place of all structural steel for one 164 feet 2-inch fixed-span bridge, flooring, and erection of all structural steel hand railing for above bridges.

The object of the work is in accordance with plan for general improvement of Kingston harbour, to provide highway for vehicular and pedestrian traffic between Barriefield and adjacent country and city of Kingston.

Work was done May 22 to December 30, 1915.

Expenditure, $35,720.

College Wharf.

Repairs to Royal Military College wharf. The location of the work is in Navy bay, Kingston harbour, near mouth of Cataraqui river.

Construction of a small crib retaining wall, 60-foot continuation of the retaining wall built during fiscal year 1914-15, was built by day labour.

Work was done from February 16 to March 15, 1916, expenditure, $422.08.

Dredging.

Dredging in Anglin's bay and Cataraqui river, on the inside of the new combined roadway and wharf, was completed as follows:—

1. Bay Street Slip.—An area, 190 by 25 feet, was cleaned out in order to conform with other dredging done adjacent, and provide sufficient depth of water to allow vessels to dock at Anglin and Company's wharf.

Sanitary reasons also made this dredging necessary as sewage is emptied into this slip at the end of Bay street.

Dredging in this slip was to elevation 229.

2. King Street Slip.—An area, 36 by 30 feet, was dredged in conformity with adjacent dredging which would provide sufficient depth of water to allow vessels to dock at Frontenac Lumber and Coal Company's wharf.

Kingston city engineer made application to have this work done for sanitary reasons. Sewage having accumulated entering by way of a sewer at the end of King street.

Dredging in this slip was to elevation 229.

3. Canadian Pacific Railway Dock.—An area, 260 by 40 feet, beside the Canadian Pacific Railway dock was dredged in order to give sufficient depth for vessels drawing 14 feet of water to dock at this wharf, many cargoes of coal being unloaded here.

4. Main Channel.—This work consisted of cleaning out a channel, 940 by 82½ feet (average), extending from Anglin and Company's wharf through Anglin's bay to a point in the Cataraqui river to meet the dredging done in connection with the combined roadway and wharf, thus completing a channel providing sufficient depth of water for vessels with a draught of 14 feet destined to dock at any of the various wharfs in Anglin's bay.

13,738 yards, place measurement, of clay and silt were removed, at a cost of $2,953.24. Work was done between 21st July and 27th August, 1915.

KINGSVILLE.

(This work is described in the annual report for 1915.)

Kingsville is a thriving town, situated on the north shore of lake Erie, in the county of Essex, about 25 miles east of the mouth or the Detroit river, and on the line of the Père Marquette Railway.

Repairs performed during the last fiscal year consisted of the following:—

East Pier.—The placing of waling on west side of east pier for a distance of 150 feet from outer end, for which material was on hand, also placing section of lower

waling across end of structure; the driving and straightening of 2 loose pieces of sheet piling in outer end of east pier, and the repairing of decking where required with 3-inch white oak.

West Pier.—The construction of a walk 4 planks wide, using 3 by 10 hemlock, and the redecking of the outer end of this pier; the painting of the roof of warehouse with one coat of paint, and the installing of dry earth closet in warehouse.

Expenditure during past fiscal year was $1,465.69.

Dredging.

Authority was given to excavate 7,540 cubic yards, scow measurement, in removing shoal at entrance of this harbour. Operations were commenced on July 16 and continued until August 17. The object of this work was to remove an area at outer entrance to harbour so as to afford a draught of 16 feet.

The dimensions of the work accomplished are, length 240 feet, width 134, and depth 16 feet below L.W.L. The material removed was sand with a trace of clay. The quantity of material removed was 5,148 cubic yards, place, or 6,694 cubic yards, scow measurement, giving an expansion factor of 30 per cent.

Work was performed by government dredge *No. 114*. Owing to the fact that there is a considerable wash of sand along the north shore of lake Erie, it will probably be necessary to redredge this entrance channel within three years.

LAKEFIELD.

Lakefield, in the county of Peterboro, is on the Otonabee river and Trent Valley canal system, 10 miles west of the city of Peterboro. It is a terminal of the Grand Trunk railway and a line of steamers traversing the Kawartha lakes starts from this place, by means of which about 30,000 tourists and travellers are distributed during the summer. Population, 1,500.

Work on landing stage and shelter was commenced on 19th June and was completed 5th August and consisted in constructing a concrete landing-stage or walk, 126 feet in length, varying in width from 10 to 60 feet; also a walk 175 feet long by 4 feet wide, and a shelter 12 feet by 30 feet.

Total expenditure for fiscal year 1915-16 is $715.51.

LEAMINGTON.

(This work is described in the annual report for 1915.)

Leamington is a prosperous town, situated on the north shore of lake Erie, in the county of Essex, about 37 miles from the city of Windsor, on the lines of the Père Marquette and Michigan Central railways.

Work of repair to piers was commenced May 3 and was completed September 13, and the work consisted in the reconstruction of the defective section of landing-pier for a length of 569·5 feet, extending from inner end of crib work north to the last new pile bent furthest out from shore; the reconstruction consists of pile bents, 4 piles per bent, at 8·5 feet centres, the piles being 30 to 35 feet long, cap timbers 20 feet long, stringers, 10 rows, 6 inches by 12 inches by 18 feet.

The pile bents were sway braced with 4 by 10 by 16 timber. Guard rails were placed on decking of 4 by 8 and in lengths varying from 12 to 14 feet, all good decking to be relaid.

Total expenditure for fiscal year was $6,756.47.

LEITH.

Leith, in the county of Grey, is on the southeast shore of Owen sound, about 6 miles northeast of the city of Owen Sound.

The existing wharf property has been conveyed to the Crown by the late owner, Captain John Ainslee.

Contract plans and specifications for reconstruction of wharf were prepared, but no work has been done to date.

LITTLE DETROIT.

This is a point on the steamboat route known as the Whale Back channel of lake Huron, which is now used mostly by lumber barges and tugs hauling rafts of logs from ports and rivers between Blind river and Spanish river, Ontario, routeing easterly into the Little Current channel and into Georgian bay, and is used by some of the local passenger boats. It is a narrow passage between the easterly end of Aird island and the mainland, within a mile of the post office of Spanish Mills, where a large lumber mill belonging to the Spanish River Lumber Company is located, and is distant westerly about 24 miles from Little Current. There are no means of establishing the volume of trade passing through this channel, but it obviously consists of many millions of feet, board measure, of lumber, hundreds of thousands of logs, and a large tonnage of package freight.

The channel is narrow and strong currents are developed through it during stormy weather, making it difficult at such times to handle boats with proper safety, particularly as a rocky shoal projects into the waterway from its southerly side. The object of the work is to make the channel 100 feet wide by 18 feet deep by the removal of a portion of this shoal, thereby improving conditions of navigation at least 100 per cent.

1913.—On the 16th of October, 1913, an Order in Council was passed authorizing the acceptance of the offer of the Canadian Dredging Company, Limited, of Midland, Ontario, for the dredging of 1,100 cubic yards, place measurement, of rock, at the unit price of $5.40 per cubic yard, but, owing to the lateness of the season when the authority was given, work was not started and no expenditure was incurred.

1914.—During the winter of 1913-14, a more extensive and thorough survey of this channel was made, and it was found, in order to provide proper improvements, that 4,000 cubic yards, place measurement, of ledge rock, would have to be excavated. Tenders were called on August 1, 1914, an Order in Council was passed authorizing the acceptance of the tender of the C. S. Boone, Dredging and Construction Company, Limited, of Toronto, for the removal of 4,000 cubic yards, place measurement, of rock, at the unit price of $3 per cubic yard, and on the 4th of November, authority was given to commence the work, but as the season was so far advanced, the contractors obtained permission to delay its commencement until the following season, and, therefore, no expenditure was incurred.

1915.—Instructions were given that the work should be commenced, and that it was to be completed by September 1. Later, the contractors reported that satisfactory progress could not be made until after the logging season was over, and on their assurance to complete their contract before its expiration on the 15th of December, permission was given them to delay commencement until September 1. Work was commenced on September 23, and suspended November 30, and during which period 2,500 cubic yards, place measurement, of rock, were removed.

The expenditure for the season was, $8,106.92.

LITTLE GRASSY RIVER.

Lake of the Woods.

The Little Grassy river is a small river, running northwesterly into the southeast corner of the lake of the Woods. There is a scattered settlement of some three or four hundred people within a radius of three miles.

The traffic on the river consists of several tugs owned by lumber companies and drawing up to nine feet. One passenger steamer, draught 7½ feet, calls at intervals.

Some settlers' supplies are brought in and some logs and ties, etc., are rafted out. The season of navigation lasts from June to October. A good road to the town of Sloemans, on the Canadian Northern railway, 17 miles distant, is the other means of communication.

The work is of a public nature and will considerably aid the settlement of the district, when completed. It will also enable tugs, etc., drawing up to nine feet of water, to enter the river from the lake of the Woods. The river is navigable for this class of vessel for about three miles from its mouth.

Early in 1914, an examination was made, soundings and borings taken, and a report was sent in.

The proposed work consists of dredging a channel 3,000 feet long, 100 wide and 11 feet deep, through a shoal area at the mouth of the river.

Authority was received that the Rainy River Dredging Company remove 10,000 cubic yards, place measurement, class B material, but as this was not sufficient to cover all the dredging proposed, instructions were given to lay out the work in such a way that the maximum possible benefit might be obtained from the removal of the authorized quantity.

Work on this contract commenced June 30, 1915. Beginning at the shore of easterly end, a channel, having a length of 475 feet, a bottom width of 85 and a depth of 11 feet below zero of gauge, or 1,058·8 M.S.L., was dredged partly through the shoal, 9,858 cubic yards, place measurement, of silt, sand and clay, were removed at a unit price of 45 cents. The returns amounted to 10,700 yards, scow measurement, which gives an expansion factor of 11·7 per cent.

This work closed down July 19, 1915; one dipper dredge, *Moose,* and two scows being employed. The soundings taken during March 1916, on the ice over the area dredged, show that very little filling in has taken place. The work proposed for the fiscal year 1916-17, consists in completing the channel already commenced.

Total expenditure, fiscal year ending March 31, 1916, was $4,555.50.

L'ORIGNAL.

L'Orignal, a village in Prescott county, is located on the south shore of the Ottawa, 54 miles below Ottawa, and is a station on the Canadian Northern railway.

The original public wharf at L'Orignal was built in 1841, and considerably extended in 1876, by the municipality and provincial Government grants. The superstructure was carried away by ice in 1884, rebuilt by this department, and in 1896-97 the approach had to be rebuilt of pilework, while the landing-head had to be reconstructed. Extensive repairs have been necessary on this structure from time to time.

Repairs and improvements were made, July 13 to August 14, as follows: The approach flooring was covered with 3-inch planking, on a length of 644 feet by 12 feet in width; areas 12 to 36 feet by 24 feet, and 36 feet by 32 feet, at outer end, were also planked; floor was renewed on slip from high level to low-level landing; the east portion of the high-level platform, 31 by 35 feet, which had been damaged by fire in August, 1914, was restored with two new tiers of 10 by 10 timber, new capping and mooring-posts, and 12 inches of earth topping on the ballast stone; repairs were also made to railing, waling and fenders, and the freight shed received one coat of paint and had its roof and doors repaired.

Expenditure during the fiscal year, $990.78.

LORRAIN.

Lorrain, in Nipissing district, is located on the west shore of lake Timiskaming, some 10 miles south of Haileybury, and is an outlet for a growing farming district.

A small public wharf was built in 1914 and some dredging improvements were carried out.

During the past year, repairs were made to the sheeting, fenders and wharf capping; the riprap of the approaches was built up, and some gravelling was done.

Expenditure during the fiscal year, $50.

Dredging.

It was found necessary to improve the approaches to the wharf for navigation under relatively low water conditions.

Departmental dredge *No. 118* worked from May 27 to June 9, removing 2,479 yards clay, scow measure, to grade elevation 572, making an approach basin in front of the wharf about 125 feet long along the wharf.

MADAWASKA RIVER.

The Madawaska river, in South Renfrew county, flows in an easterly direction into the Ottawa river, at Arnprior, and affords a 30-mile stretch of navigation, from Barry's bay, for boats of shallow draught, which handle traffic of Combermere and other points.

In 1913, a small sand-pumping plant was built at Barry's bay for the purpose of improving the boat channel across the extensive sand bar at the foot of Kaminiskeg lake.

During the past season, work on this improvement consisted of completing a straightening cut 1,600 feet long, 22 feet wide, to a minimum depth of 5 feet at low-water level.

Expenditure during the fiscal year, $2,302.24.

MAGNETAWAN.

Magnetawan, district of Parry Sound, is a village situated on the Magnetawan river, 18 miles from Burk's Falls, the latter a station on the Toronto-North Bay Division of the Grand Trunk railway system. The population of Magnetawan is about 200.

Work was begun November 1, 1915, and completed November 16, 1915, and consisted in improving the approach to the warehouse and erecting a chimney in the warehouse to admit of same being heated during the cold weather prior to closing of navigation.

Total expenditure for fiscal year 1915-16, $139.75.

MICHIPICOTEN.

Dredging.

Michipicoten harbour, is situated about 120 miles north by west from Sault Ste. Marie, on the extreme northeasterly corner of lake Superior, and is the terminal port of the lake Superior Branch of the Algoma Central railway, with a population of about 100. It is the most important shipping point on the north shore of lake Superior between Sault Ste. Marie and Port Arthur, and the principal trade consists of the importation of coal to the extent of 150,000 tons for use at the Helen and Magpie iron mines, which are situated about 20 miles inland, and the exportation of iron ore to the extent of about 400,000 tons, having a total value of about $2,000,000, according to the information supplied by the management of the railway.

Considerable trouble having been experienced in approaching the ore dock and coal dock with the large steam barges carrying coal and ore, on account of shoal water, the department decided to perform the necessary dredging to relieve the difficulty, which was done by the departmental dredge *Industry No. 109.*

Work was commenced on August 30, 1915, and completed September 2, during which period 8,607 cubic yards, scow measurement, of clay, sand, coal and iron ore were removed.

The railway company proposes to construct a new ore dock of modern design and large capacity at this place, and having petitioned the Government to perform the necessary dredging to enable boats of 24 feet draught to approach and turn about it, a rather extensive survey, with soundings and borings, was made during the summer and fall at a cost of $900.61.

MIDLAND.

New Coal Dock.

This work is located within the limits of the town of Midland, township of Tay, county of Simcoe. The surroundings consist of numerous saw-millls, coal wharves, etc., all of which are reached by sidings from the tracks of the Midland Division of the Grand Trunk Railway system.

The object of the dredging was to deepen the harbour by the removal of sand and mud in front of the new coal wharf built by Mr. James Playfair. The completed work enabled boats drawing 20 feet of water, when loaded, to tie up to the wharf. The wharf is well sheltered from storms, but water level is subject to variation in elevation by adverse winds.

In the year 1915, an agreement was entered into with the Canadian Dredging Company, Limited, of Midland, for the removal of 2,800 cubic yards, place measurement, of mill refuse and clay at a unit price of 25 cents per cubic yard. The work done covers an area of 25,700 square feet in front of coal dock and to a depth of 23 feet below zero of Georgian bay gauge, elevation 580·0 for which the contractors were paid $700. The work was commenced May 25, and completed on May 31, 1915, during which period the area was completed according to the plans and the agreement.

The total expenditure for the fiscal year 1915-16 was $700.

MINAKI.

Minaki, District of Thunder Bay and Rainy River, is situated on Gun and Sand lakes, which are two wider stretches of the Winnipeg river. It is on the Transcontinental railway, 115 miles east of Winnipeg, and some 20 miles north of Kenora, on the Canadian Pacific railway, with which it is connected by a steamer service *via* the Winnipeg river.

A wharf was built of the crib-and-span type, with round timber cribs stone-ballasted. The main part consists of six cribs 12 feet by 16 feet, and is 214 feet long and 16 feet wide. An "L" on the outer end, 54 feet long and 16 feet wide, is supported by two cribs 16 feet by 16 feet, and 16 feet by 18 feet, respectively. There is a parcel room and shelter 32 feet by 8 feet on the "L". The depth of water varies from 4 feet to 14 feet.

The whole structure is built of first-class material in a workmanlike and substantial manner and is equipped with all necessary fenders, lighting posts and mooring cleats.

Work was commenced 15th June and completed August 21, 1915, the total cost being $3,945.58.

MONTREAL RIVER.

The scheme for improving the Montreal river, between Latchford dam and Mountain chute, so as to make the whole distance, 41 miles, navigable, included the excavation of channels through Flat rapids and Pork rapids.

The improvement at Flat rapids was carried out by hand-excavation and blasting in 1910-12-13; the upper reach, 3 miles in length, was lowered from one to two feet,

necessitating the improvement of certain shoal points, and a boat channel for 6-foot navigation was obtained.

The improvement at Pork rapids was commenced in 1912, and completed during the past season, by means of a floating excavating plant, built at Latchford, January 6 to March 22, and July 5 to August 9.

During the period August 10 to October 23, 2,350 cubic yards sand, gravel, clay and boulders were overcast from two cuts, 420 feet and 220 feet long, respectively, 50 feet wide, and carried to grade elevation 902·0 (R.W.S. elevation 908·5), at a cost of $2,128.51. The plant was hauled out at Latchford on November 22, and certain necessary repairs were made.

During the season, it was found necessary to grade or re-locate certain roadways, and improve property affected by backwater from the regulation dam at Latchford, at an aggregate cost of $505.58.

NEWCASTLE.

Newcastle, in the county of Durham, is situated on the north shore of lake Ontario, about 47 miles east of Toronto. It is a privately owned harbour. Newcastle is a station on the Grand Trunk and Canadian Pacific railways. Population, 800.

Instructions were issued to have the departmental dredge *No. 105* do some dredging at this place; the estimated quantity being 3,000 cubic yards.

Work was commenced on 7th and was completed on 14th July, when the dredge removed 3,766 cubic yards, scow measurement, of sand and boulders from the wrecked headblock of the east pier, in order to facilitate the unloading of coal vessels. A cutting, 290 feet in length by 45 feet in width, was made immediately to the west of the east pier, all to a depth of 12 feet below zero.

NEW LISKEARD.

New Liskeard, a station on the Timiskaming and Northern Ontario railway, is located on the northwest shore of lake Timiskaming. There is a railway spur to the public dock and a double siding is under construction. The water-borne traffic is some 650 tons per month.

In 1911, the old wharf and site of the Timiskaming Navigation Co. was acquired, together with other property for right-of-way required, and a public wharf was built at this place in 1913. The structure has been improved since, kept in repair and a pilework breakwater built in connection, together with dredging which has been carried on from year to year.

During the past year, the shore end of the earthfill approach, which had originally been built low to connect with the streets, was graded up to the elevation of the dock; the stone riprap walls at the outer end of approach were improved and lengthened, owing to the eroding action of high water; the flooring of the approach was raised to permit placing of heavy riprap at the end of the railway ballast fill; two of the three slips were lowered and lengthened; the ice which formed at regulated water surface in the fall exerted a great strain on the braces, from which it had to be cut in the spring under much lower water conditions.

Expenditure during the fiscal year, $570.50.

NORTH BAY.

North Bay, a town in the District of Nipissing, is situated on the north shore of lake Nipissing. It is a divisional point on the main line of the Canadian Pacific railway, a terminus of the Grand Trunk railway and Timiskaming and Northern Ontario railway and a station on the Canadian Northern railway.

The public wharf, built at this place in 1899, has necessitated heavy repairs from time to time.

A severe storm occurred on lake Nipissing July 5, tearing off about 500 lineal feet of 10 by 10 capping, several 12 by 12 crib timbers and breaking planks in the landing-head floor.

During the period, July 15 to August 7, repairs consisted in salvaging and replacing timbers removed by storm and relaying 500 lineal feet of 10 by 10 capping. Limited general repairs, such as renewing sheeting and electric wire standards, where necessary, also bracing piles under the freight shed, were made.

Expenditure during the fiscal year is $293.03.

OAKVILLE.

Oakville, in the county of Halton, is on the north shore of lake Ontario, 29 miles southwest of Toronto, on the Grand Trunk railway. It has several mills, factories and a ship yard. Population, 2,000.

Work of repair to the piers was commenced on 9th August and was completed on 30th September, 1915, and consisted in renewing the top course of timber on the east pier for a length of 645½ feet, renewing sheeting on "L" for a length of 130 feet, and placing new cross ties, stringers, planking and stone filling for 60½ feet of "L." Sheeting 2 sides of lighthouse 5 feet in height, and giving warehouse, 40 feet 7 inches by 20 feet 3 inches, one coat of paint, re-shingling roof and placing new studding and clapboarding on the southeast face of warehouse for a height of 6 feet.

Total expenditure for the fiscal year 1915-16 is $1,500.03.

OWEN SOUND.

Owen Sound, in the county of Grey, is situated on Owen sound, an arm of Georgian bay, and at the mouth of the Sydenham river, 122 miles northwest of Toronto, on the Canadian Pacific and Grand Trunk railways.

Owen Sound has a fine, well protected harbour, 12 miles long, navigable for the largest vessels. It has a number of industries. Population, 12,500.

Owing to shallow water, it was found necessary to do certain dredging in order to permit of boats landing at McLauchlan's wharf, the estimated yardage being 3,000, *in situ*. Arrangements for carrying on the work at 30 per cent per cubic yard, were made with Mr. John E. Russell, but after working on the 9th and 10th September, operations were discontinued owing to their inability to anchor the dredge in the soft material. 307 cubic yards were removed.

Authority was given to have Mr. Russell remove 5,400 cubic yards at 30 cents per yard, scow measurement, adjacent to the dock of the Union Cement Company. The area removed was 280 feet by 120 feet, to the east of the dock, and an area 380 feet long by 30 feet wide, extending northeasterly from the dock area, all to a depth of 16 feet below zero. The removal of this material made possible the landing of fully loaded boats at the docks of the Union Cement Company.

Work was commenced on 5th and completed 13th October when 5,435 cubic yards, scow measurement, of sand, mud and coarse gravel were removed.

PARRY SOUND.

Parry Sound, District of Parry Sound, is a town situated on the east shore of the Georgian bay. Population, 3,500.

Work was begun August 7, 1915, and completed September 30, 1915, and consisted in renewing the deck of the wharf and building a proper landing to accommodate launches and other small boats.

Total expenditure for fiscal year 1915-16, $767.33.

PELEE ISLAND.

Pelee Island is situated at the western end of lake Erie, in lat. 41° 46′ N. long. 28° 45′ W., about 35 miles southeast from the mouth of the Detroit river and 16 miles south of the town of Kingsville, Essex county. Population of the island about 650.

The work of repair of the north dock, performed between May 3, 1915, and March 31, 1916, consisted of the following: Renewing of decking over section of dock, 12 by 42, on east side of warehouse, renewing defective decking and face timbers at outer end of dock, repairing of roadway on dock and approach to same, and levelling up and resurfacing with gravel.

The work on the west dock, performed between June 4, 1915, and January 24, 1916, consisted of the following: One section of decking, 40 by 50 at outer end of dock, was renewed; ten new face timbers were renewed, and two new piles were placed in position.

Expenditure for fiscal year 1915-16 was $1,456.99.

PENETANGUISHENE.

The harbour of Penetanguishene is located on a part of the Georgian bay in the township of Tay, county of Simcoe, with a population of about 3,000. There are saw-mills, box factories, stove foundry, large tannery, fibre-board factory and boat builder, all located within the limits of the town. The Beardmore Company and other tanners ship large quantities of tan-bark by rail from this place. The Grand Trunk Railway system have a terminus here, which is distant by rail about 120 miles from Toronto.

The object of the dredging was to deepen the harbour in front of the Esplanade, forming a turning basin for large passenger boats. The harbour is well sheltered from storms, but the water level is subject to rapid rise and fall, occasioned by adverse winds.

In the year 1915, an agreement was entered into with the Penetanguishene Dredging Co., Limited, for the removal of 18,500 cubic yards, place measurement, of sand and soft clay, at a unit price of 24 cents per cubic yard. Of this amount, 17,300 cubic yards were removed, for which the contractors were paid $4,152.

The work was commenced October 13, and completed December 10, 1915, according to the plans and the agreement.

The expenditure for the fiscal year 1915-16 was $4,315.60.

PETAWAWA.

Petawawa, a village in North Renfrew county, is located on the Ottawa river, at the mouth of the Petawawa river, 10 miles west of Pembroke.

In 1905, a public wharf was built at this place but owing to the growth of a sand bar interfering with logging operations in the vicinity of the wharf, it became necessary to remodel the latter in 1912.

During the month of March, minor repairs were made, consisting in setting back and strutting pile-heads which had been shoved in by steamboats; replacing certain floor stringers and planking, as well as levelling up some of the pile bents.

Expenditure during the fiscal year, $100.50.

PETERBOROUGH.

Peterborough, in the county of Peterborough, is situated on the Otonabee river and Trent Valley canal system, and has a population of 17,000.

Authority was received to provide facilities for the supply of water, for drinking and sanitary purposes, in the pavilion on George street wharf at this place, and the work was performed in June at a cost of $16.20.

PICNIC ISLAND.

Picnic island, lies to the north of Manitoulin island in the district of Algoma, about 1½ miles west of the town of Little Current, on the main steamship channel through the north channel of lake Huron. Two large saw-mills are located on it, and the shipping consists wholly of lumber, amounting to some forty million feet, board measure, per year, valued at about $100,000. The population varies from 50 to 300, dependent upon the operation of the mills. The present dredging, however, is not in consequence of any interests connected with Picnic island, and is so named merely on account of its proximity.

The object of the work is to improve the general trade route of the north channel of lake Huron, to permit it to be navigated by the large lake freighters. The operation of the channel opposite Picnic island which is being improved is about 5,000 feet long by 300 feet wide, and the grade depth is 22 feet below standard low-water level. All the work done under this contract will be of a permanent nature, and there will be no refilling, nor will any charge for maintenance and redredging be necessary. The Department of Marine and Fisheries has issued a "Notice to Mariners," giving instructions for the navigation of the portion of the dredged channel now completed, and the necessary spar buoys have been placed in position.

Authority was given 19th April, 1915, to proceed with this contract dredging at the unit price of $1.70 per cubic yard, scow measurement, and accordingly work was commenced on May 10, and continued until October 15, during which period 30,005 cubic yards, scow measurement, were removed, but as recent soundings disclosed the fact that much excess sub-grade dredging had been performed, returns, totalling 13,313 cubic yards, were withheld from payment, and the balance, 16,692 cubic yards, were returned in favour of the contractors for payment, amounting to $28,376.40. The whole of the areas previously covered by the dipper dredges are now in a completed condition, including a through channel which will be properly marked by the Marine Department with spar buoys having a minimum width of 200 feet. The portion of the area under contract still incomplete, is relatively small, and will be completed during the summer of 1916.

The expenditure for the fiscal year 1914-15, was $31,697.28.

A summary of the estimates returned in favour of the C. S. Boone Dredging & Construction Company, Limited is as follows:—

Fiscal year 1910-11	28,350	cu. yd.	@ 1.75....	$ 49,612 51
Fiscal year 1911-12	37,460	"	@ 1.75....	65,555 70
Fiscal year 1912-13	60,093·6	"	@ 1.70....	102,159 12
Fiscal year 1913-14	56,495·4	"	@ 1.70....	96,042 18
Fiscal year 1914-15	45,903	"	@ 1.70....	78,035 10
Fiscal year 1915-16	16,692	"	@ 1.70....	28,376 40
Total	244,994·0	"	.....	$419,781 01

PLEASANT POINT.

Pleasant Point, in the county of Victoria, is a summer resort on Sturgeon lake, on the Trent Valley canal system, and has a summer population of about 350.

Work of repair, by day labour, was commenced 2nd July and was completed 31st August, and consisted in the construction of an extension to the existing wharf, 60 feet by 12 feet, built by the Department of Railways and Canals; also renewing the decking, deck stringers and waling of the existing structure, where required.

Total expenditure for fiscal year 1915-16 is $1,384.42.

POINT EDWARD.

On the 27th April, 1910, Order in Council was passed granting the Cadwell Sand and Gravel Company, of Windsor, Ontario, the exclusive privilege of dredging the material required to be removed, in order to maintain a depth of at least 21 feet of water opposite the docks at Point Edward, on condition that the said mentioned company be allowed to dispose of the material for its own purpose.

This agreement having lapsed, was renewed for one year on April 15, 1915, and in connection therewith there was removed 43,760 cubic yards, from April 1 to December 9.

The object of doing this work is to maintain a draught, not exceeding 23 feet, over a certain section of the St. Clair river in front of Point Edward, where considerable shoaling annually takes place from sand deposit brought down by the current from lake Huron.

The dimensions of the area covered by the Cadwell Sand Company during the past season were, length, 3,000 and width 170 feet.

The material removed is entirely sand and gravel. The quantity of material removed during the past year was 43,760 cubic yards, scow measurement. No computation was made in so far as ascertaining place measurement quantity of this area covered.

As this work has had to be maintained for a period of five years in order to keep down the formation of the bar at Point Edward, the necessity is apparent, whereby, either this present plan of dealing with this matter will have to be extended, or other provision will have to be made for the operation of dredging plant as was done prior to the commencement of this agreement.

PORT ARTHUR.

(This work is described in the annual report for 1915).

Port Arthur, district of Thunder Bay and Rainy River, with a population of 20,000, has a fine natural location on the shore of Thunder bay, near the northwestern end of lake Superior.

Bare Point.

The breakwater at Bare point, Port Arthur, is of the rubble mound type, and is constructed of two classes of stone, viz.: a core of quarry run and a covering course of large rubble stone, weighing from 4 to 10 tons and upward. It starts at Bare point near the north end of the harbour and runs in a southerly direction towards the main or central part. The depth of water in which it is built varies from 10 to 30 feet, and the bottom consists of sand and extremely soft blue clay.

Operations to complete were resumed May 25, 1915, and the remaining work accomplished. The stone was brought to the work, from the quarry, by train, an average haul of 1 mile, and was unloaded and placed in position by a scow-derrick anchored alongside. Practically no settlement took place during 1915 and this difficulty appears to have been finally overcome.

This breakwater, as completed, has an approximate length of 3,300 feet, an average width of approximately 28 feet, and a height, above water level at zero of gauge of 601·86 M.S.L., of 8 feet. The side slopes approximate 1½ horizontal to 1 vertical.

Operations were suspended October 5, 1915. A careful final inspection was then made and the contract accepted as completed. Total expenditure, fiscal year March 31, 1916, is $91,618.61.

New Breakwater.

The second extension to the new breakwater is a southerly extension, on the same centre line, of the first extension, constructed in 1913. An entrance, 375 feet wide, and known as the south entrance, has been left between the two extensions to give access to the south part of the harbour.

During 1914, the pile foundation was driven and cut and all the cribs were built, seven of them being set in place, filled and partially riprapped. Three cribs were also covered with the concrete superstructure. Work was recommenced this season April 27 and was completed October 5, 1915. During this time, the remaining nineteen cribs were set in place and filled, the superstructure completed and the whole riprapped. This breakwater presents a good appearance and has been well built throughout of the best material.

Total expenditure, fiscal year ending March 31, 1916, is $258,366.34.

Dredging.

To afford proper facilities for traffic, a general plan of improvement and enlargement has been laid down, outlined to meet both present and future needs. This plan really provides for a large inner harbour, dredged throughout to a depth of 25 feet, and protected by breakwaters; the work to be carried out systematically, as occasion demands.

In accordance with this plan, a contract was let early in the summer of 1913, to W. E. Phin, Esq., Hamilton, Ont., which provided for the removal of 942,000 cubic yards, scow measurement, of class B material, in the main harbour, at a unit price of 13 cents.

In 1913, the southern half of the main harbour south was widened to 1,225 feet; a triangular piece, 2,300 feet long, with a base of 490 feet, was dredged at the south end of the main harbour south, to give access to the new Government elevator and the Davidson and Smith elevator. 528,794 cubic yards, scow measurement, were removed.

In 1914, the main harbour south was widened to an average width of 1,450 feet throughout its entire length, a distance of 4,700 feet. The main harbour centre was enlarged at its northwest part, and King's channel was straightened at its northwestern end by dredging a cut of 1,200 feet long and 45 feet wide, in addition, re-dredging was done in the slips at King's elevator, the Canadian Northern elevator "A," the joint slip between the Davidson and Smith elevator, the Government elevator, and along the face of the C. N. Ry., coal and ore dock.

The total quantity removed in 1914 was 416,410 cubic yards, scow measurement, class B material. The removal, prior to December 15, 1916, of 1,095,000 cubic yards, scow measurement, class B material, from the main harbour, under contract No. 9490 extended. W. E. Phin, contractor, was authorized on April 14 and 23, respectively.

Work started May 8, 1915, and the main harbour south was widened from an average width of 1,450 feet to a width of 1,825 feet, on an average length of 4,020 feet.

In the main harbour centre, a triangular piece at the south end of the old breakwater was dredged. The depth dredged in area "B" was 25 feet, 1 foot for sub-grade. The quantity excavated was 413,726 cubic yards, scow measurement, class B material. The place measurement quantity computed from soundings is 374,691 yards, giving an expansion factor of 10·5 per cent.

The main harbour south was also lengthened by dredging a rectangular piece having a length of 2,150 feet and an average width of 372 feet. The depth dredged was 25 feet, and 1 foot for sub-grade. The quantity removed was 185,243 yards, scow measurement. The place measurement quantity is 160,175 yards, giving an expansion factor of 15·6 per cent. In addition, some shoal places in the main harbour south were re-dredged, and 12,760 yards, scow measurement, were removed.

All depths mentioned refer to zero of the Public Works Department staff gauge, which is 601·86 M.S.L. The water during the navigation season is practically always above this zero level.

All material removed was of class B, consisting of sand and clay, in varying proportions, and easily handled. Only one dredge, the *Kennaquhair,* was employed dur-

ing 1915. The average haul was approximately 2 miles and the protection from storms was good.

Work was closed for the season on December 8, 1915, and 611,729 yards, scow measurement, class B material, were removed. During the winter 1915-16, the necessary soundings were taken, on the ice, over the areas dredged; the work being found atisfactory. There were no special features in connection with this work, and its close proximity to other points where work was being carried on, rendered close supervision easy.

Total expenditure, fiscal year ending March 31, 1916, is $80,460.27.

PORT BRUCE.

Port Bruce is a village situated at the mouth of Cat Fish creek, in the county of Elgin, on the north shore of lake Erie, about 10 miles east of Port Stanley and 10 miles south of Aylmer, the nearest railway connection. Population, about 150.

Repairs on piers, by day labour were commenced May 25 and were completed June 20, and consisted of the following: On section of west pier 200 feet long and cribwork portion of same, decking was placed for a width of 10 feet including the renewal of three 12 by 12 cross-ties and 200 lineal feet of 10 by 10 top-face timbers; the continuation of the reconstruction of the west pier on the old pile foundation for a length of 60 feet; the renewal of approximately 50 feet of west pier at north end, consisting in the renewal of defective face timbers and levelling up same, approximately 75 feet of decking was repaired; a small tool-house was built for storing the Government tools, etc., and a considerable quantity of gravel filling was placed in outer end of west pier.

Total expenditure for fiscal year 1915-16 was $984.83.

PORT BURWELL.

The village of Port Burwell is situated at the mouth of Otter creek on the north shore of lake Erie, 22 miles east of Port Stanley.

Repairs to piers were commenced, by day labour, May 10 and closed down March 31. The work performed consisted of the following:—

East Pier.—At inner end of east pier near shore, 85 feet of decking was renewed, including defective top face timbers, stringers and decking.

West Pier.—Check water between the south end of the west pier and north end of west breakwater, being 114 feet of pile work, was reconstructed; gap between cribwork at south end of west pier was closed with 8 by 10 by 30 beech sheet piling and the same was fastened securely to pier to stop sand washing into channel; 300 feet of decking was renewed including 3 top face timbers on channel side of pier, defective crossties, stringers and decking; 290 feet of pile wall north of cribwork, opposite the ferry slip, was constructed; 30 feet of defective decking north of check water was renewed, and floating pile driver was hauled out of water on completion of season's work and thoroughly caulked.

Expenditure during the past fiscal year amounted to $9,297.20.

Dredging.

During the past season, the government dredge *Sir Richard* worked in Port Burwell harbour. Work was commenced on September 29 and continued until November 3, when owing to a bad break down of plant, operations ceased in this port.

During the period of operations, dredge *Sir Richard* removed 13,250 cubic yards, scow measurement, or 7,131 cubic yards, place, an expansion factor of 85·9 per cent. The area covered was a shoal area in inner turning basin and covered a width of 145 feet, length 700 and the whole area was dredged to a depth of 20 feet below L.W.L.

The material removed was mostly sand with a slight portion of clay. This work was all done by Government dredge *No. 120.*

The length of time that this improvement will last will altogether depend on the storms that take place in lake Erie as a considerable amount of drifting sand is moved by these storms; most likely this section will have to be dredged again within three years.

PORT ELGIN.

Port Elgin, in the county of Bruce, is situated on the east shore of lake Huron, and is a station on the Grand Trunk railway. It has some industries and is a summer resort. Population, 1,200.

Authority was given to have the Marlton Dredging Company remove 6,918 cubic yards, scow measurement, at 38 cents per cubic yard. Work was commenced on 3rd and was completed on 15th July, when the dredge removed 6,937½ cubic yards, scow measurement, of sand from a shoal area on the range line leading to the landing wharf. The total length of cut was 400 feet with a width of 48 feet for about half its length and 20 feet for the remainder, all to a depth of 14 feet below zero.

Total expenditure for the fiscal year 1915-16, $2,683.67.

PORT HOPE.

Port Hope, in the county of Durham, is situated on the north shore of lake Ontario, 63 miles east of Toronto, on the Grand Trunk, Canadian Pacific and Canadian Northern railways. There are many important industries at this place. Population, 5,000.

Work on the revetment wall was resumed in April and completed on 24th November, and consisted in the construction of a wall 645 feet in length, having cribwork substructure and concrete superstructure, with a width at the base of 16 feet and at the top of 5 feet.

Total expenditure for fiscal year 1915-16 is $38,276.73.

Dredging.

Authority was given to have the shoal area at the outer entrance to the harbour removed, and a contract involving the dredging of 17,580 cubic yards, *in situ,* was awarded to the Canadian Dredging Company, at 24 cents per cubic yard, place measurement.

A further authorization was subsequently made, which called for the removal of 5,500 cubic yards of material, overlying rock alongside the coal docks in the inner harbour. Work commenced on 7th June and was completed on 5th August.

The shoal area removed at the entrance to the harbour was 100 feet in length inside of the entrance piers, extending on both east and west sides to within 10 feet of the structures; also a fan-shaped area, 400 feet in length, varying in width from 100 feet at the piers to 300 feet at the lake end, all to a depth of 18 feet below zero, and dredging to the rock surface over an area 200 feet square at the northeast angle of the west harbour, with an area 200 feet by 50 forming part of approach channel, to a depth of 11 feet below zero. In doing this work, the dredge removed 17,982 cubic yards of light sand and mud.

Total expenditure for the fiscal year 1915-16, $4,592.06.

PORTLAND.

The village of Portland on Big Rideau lake, Leeds county, has a population of 300.

The construction of timber cribwork wharf was completed. The approach to the wharf begins at 10 feet north of the street line and continues 184 feet, thence makes a

left turn of 115, and continues 35 feet. From the street end of the approach to the turn, there is a slope of 1.11 per cent. A stone fill at the end of the approach proper continues back intersecting the level of the street. The approach consists of 3-pile bents spaced 15-foot centres and braced.

The crib is 80 feet by 18 feet and averages 18 feet in depth. It is placed at the end of the approach and continuing in the same direction. It is divided into 8 by 9 feet pockets, alternate pockets being floored. These were filled with stone to within one foot of the deck which is of 3-inch hemlock. The timber used was 10 by 10 hemlock cross-ties, longitudinal timbers and uprights bolted with ¾-inch round iron. Six rock elm snubbing posts, firmly bolted to the uprights, were supplied, 3 pile clusters banded were driven at three corners of the crib and at the outside turn in the approach. Some difficulty was experienced in clearing the crib site of old timbers. The crib at the outer end averages 20 feet in depth and at the inner end 16 feet. It sank through 5 to 6 feet of silt before its final settlement on hard clay.

The elevation of the crib deck was 97.50, the H.W.S. being 97.0 and the L.W.S. 91.5. Elevation being referred to the top of a survey monument placed between water lots No. 2 and No. 3, on the north boundary of Water street. It was assumed to be elevation 100.00.

On the outer end of the crib a 40-foot rain and sun shelter was built. An additional pier, 96 feet by 8 feet, with centre line beginning at 142 feet from the street line, and making an angle of 90 with the approach, was built on the outside edge of a shoal. It consisted of 5 piers spaced 22-foot centres and bridged. The deck elevation was 96.00 being lower than the main crib to accommodate small craft. The work began on March 4, with the construction of a pile driver, and was completed on June 1, 1915.

Expenditure, 1915-16, $2,300.51, and the total cost is $6,254.36.

PORT MAITLAND.

Port Maitland is situated at the mouth of the Grand river, in the township of Sherbrooke, in the county of Haldimand, 20 miles southeast of Cayuga and 4 miles southeast of Dunnville, the nearest railway and banking point. Population, 100.

Authority was given to dredge outer area of the Grand river and the channel of the river from lake Erie to the City of Dunnville, with the object of improving this stream so as to permit of the utilization of this river by the Toronto, Hamilton and Buffalo Railway Company in connection with their car ferry business. Work commenced September 1, and dredge *No. 114* worked 5½ hours, when work was stopped. In this time 300 cubic yards of clay and gravel were removed.

PORT PERRY.

Port Perry, in the county of Ontario, is on the west shore of lake Scugog, on the Grand Trunk railway, 16 miles north of Whitby and 25 miles south of Lindsay. Population, 1,200.

Work to complete the wharf was resumed on 1st May and completed on 30th September, and consisted in the construction of a wharf having cribwork substructure and concrete superstructure, 180 feet long by 20 feet wide, having a headlock 30 feet by 35 feet, also a warehouse 30 feet by 15 feet.

Total expenditure for fiscal year 1915-16 is $4,984.70.

PORT ROWAN.

Port Rowan, in the county of Norfolk, is situated on the north shore of lake Erie, in the inner bay of Long point, and is 21 miles from the town of Simcoe. Population, about 1,000.

The work on repairs to piers was commenced October 21 and completed November 30, and consisted in filling in an old culvert that formerly existed in the roadway

approach which has since become obsolete, and levelling up and surfacing the roadway approach where necessary.

Expenditure during fiscal year was $500.

PORT STANLEY.

(This work is described in the annual report for 1915.)

Port Stanley is an important harbour of refuge on the north shore of lake Erie, at the mouth of Kettle creek, in the county of Elgin, 8½ miles by rail, south of the city of St. Thomas, and 23½ miles south of the city of London.

Work commenced on a concrete warehouse, 195 by 30 feet, on 11th March, and the same was completed on June 4, at a cost of $11,763.86. Work of repair to piers commenced April 28 and was completed August 25, and consisted of the following: 115 feet of west pier northerly from north end of ferry slip, which was partially reconstructed last year, was completed; 3 cast-iron mooring-posts were placed in front of warehouse; 6 white oak fender-piles were driven on channel side of east pier, and defective decking was renewed north of the elevator.

Total expenditure on above work for fiscal year was $496.81.

Groynes.

Work of repair on groynes commenced June 1 and was completed on 10th, and consisted in filling of the groyne with some 50 yards of stone from the east pier.

Expenditure during fiscal year was $123.13.

Dredging.

A total of 50,000 yards was authorized to be removed in connection with dredging at Port Stanley. The government dredge *No. 120* was engaged in deepening this harbour from June 24 to September 24. The objects of this work were:—

1. The deepening of area in inner harbour, extending from road bridge out to 350 feet south of elevator, the length of this work being 1,170 feet, width 105, and mean average depth before dredging 16·2 feet, dredged to 18 feet below L.W.L.

2. Dredging between breakwaters outside east pier. Length 800 feet, width 85, and mean average depth before dredging 19·3 feet, dredging to 21 feet below L.W.L.

3. Dredging area outside west breakwater, length 410 feet, average width 140, and mean average depth before dredging 19·1 feet, dredged to 22 feet below L.W.L.

The amount of material removed, scow measurement, was 34,444 cubic yards, and the excavation, as shown on cross-section for place, was 20,373 yards, or an expansion factor of 68·9 per cent. This work will probably last three years before redredging is required.

PROVIDENCE BAY.

Providence Bay is situated on the south shore of Manitoulin island, lake Huron, about 25 miles southeasterly from Gore Bay, and has the only harbour along the coast. The population numbers about 300, engaged in agriculture and fishing.

Work of repair was commenced 1st May and was completed 24th July, 1915. The work consisted of driving a line, 168 feet long, of round close piling along the westerly face of the wharf to protect the latter from heavy seas, and the deck of the wharf over a length of 160 feet by a width of 20 feet, which was damaged by a storm in the fall of 1914, was relaid, a considerable portion of it being with new planking and timber.

The expenditure for the fiscal year is $3,127.81.

QUEBEC HARBOUR, MICHIPICOTEN ISLAND.

Quebec harbour, district of Thunder Bay and Rainy River, is situated on the south side of Michipicoten island, lake Superior, approximately 120 miles northwest

from Sault Ste. Marie, and 180 miles southeast of Port Arthur. It is closely adjacent to the steamer route between these places. As it is well protected and contains a large area of deep water, it was recognized that it would be a valuable and much needed harbour of refuge, for even the largest vessels, could a safe and easy entrance be assured.

To obtain this result, it was necessary to dredge a channel through a shoal immediately inside the entrance and this work was placed on the programme of the departmental dredge *Industry, No. 109,* for the season 1915.

The dredge commenced work on July 15, 1915, and a channel was dredged, 400 feet long and 275 feet wide, to a minimum depth of 21 feet below zero of gauge, or 601·86 M.S.L. It was the intention to leave a uniform depth of 25 feet, but this could not be done as solid rock was encountered at the southeastern end of the cut. 60,232 yards, scow measurement, of sand, clay, hardpan and boulders were removed.

The place measurement quantity obtained from soundings is 41,388 yards, giving an expansion factor of 45·5 per cent. Two scows were employed, and the haul was approximately 1 mile. The work was completed August 26, 1915.

RICHARD'S LANDING.

Richard's Landing is a village of about 400 inhabitants, situated on the northwest side of St. Joseph's island, in the St. Mary's river, on the steamboat route from Sault Ste. Marie to Blind River, Little Current, etc., and about 35 miles easterly from the former.

Work was commenced 1st July and completed 17th September, 1915, and consisted in the construction of a specially designed warehouse of attractive appearance, 50 feet long by 22 feet wide, containing a waiting-room, office, express and baggage-room and a general warehouse-room, the latter having a concrete floor; an area of 550 square feet, adjoining the warehouse on its easterly and southerly sides, was finished off as a concrete platform, and two other buildings belonging to the wharf property were renovated and painted.

The expenditure for the fiscal year is $1,993.97.

RIVER THAMES.

The river Thames flows through the city of Chatham and 18½ miles west of the latter place it empties into lake St. Clair. At its mouth, a channel, 8,100 feet in length, has to be maintained in order to reach deep water in the lake.

Removal of Obstructions.

Operations commenced May 10 and were completed December 10. The work in connection with this covered an area from Chatham to the mouth of the river, and consisted principally in the removal of 7,190 feet oak, 3,098 feet of elm, 621 feet maple, 892 feet sycamore, 183 feet beech and 36 feet of hickory. All saleable logs were sold and the amount realized, $156.15, was placed to the credit of this work.

Protection Work.

This work consisted in the continuation of the construction of close-faced 8 by 8 sheet piling at a bad bend in the river fronting the public general hospital, the piling being 18 feet in length with 2 front walings 6 by 8 in size, and the whole of the sheeting being secured in position by means of 1-inch tie-rods placed at 10-foot centres extending from pile wall to white oak anchor piles, 12 feet long, driven in rear of sheeting. The work constructed covered a length of 150 feet. An agreement was made for the driving of this sheet piling with James E. Doyle of Chatham, at the rate of $15 per day. Work was commenced November 8 and was completed November 30.

Ice Breaking.

An agreement was made with Capt. J. S. McQueen, of Amherstburg, to lay up his tug *LeRoy Brook* at the mouth of the Thames river for the sum of $500, and to perform required work of ice breaking at the following price: $7 per hour to be paid him for each hour that he is engaged in breaking ice, that he is to be allowed 12 hours' work, at $7 per hour, for dismantling his machinery at the mouth of the river after arriving there, and twelve hours' work, at $7 per hour, for getting his boat into condition when called upon to start the ice breaking.

Operations commenced January 11 and continued until January 14, resumed again on February 6, again resumed on March 26, and was completed and all ice removed from the river on March 31.

Total expenditure for the fiscal year for all the above works is $6,211.73.

ROCHES POINT.

Roches Point, in the county of York, is situated on Cook's bay, an arm of lake Simcoe. It is a popular summer resort, the nearest railway station being about 4 miles distant.

Work of repair, by day labour, was commenced 3rd July and was completed 24th August, and consisted in levelling up the wharf, renewing the talus and decking and making such general repairs to the structure as were required.

Total expenditure for fiscal year 1915-16 is $882.03.

RONDEAU.

Rondeau is an important harbour of refuge and a port of entry, situated on Pointe Aux Pines, about 19 miles south of the City of Chatham and 45 miles west of Port Stanley.

Work of repair, by day labour, was commenced April 16 and completed October 26, and consisted in the following:—

West Pier.—Repairs and renewal to decking and stringers at different portions of same with 3-inch decking, 16 feet long, total area about 250 by 16 feet; placing of new waling, 6 by 8 in size, on west side of west pier, for full length of sheet piling; placing of 2 new mooring-posts; placing of 100 lineal feet of 4 by 8 guard rail, and owing to loss of filling out of crib it was necessary to plank a section of inside of crib, for a length of 35 feet, and to fill the same with stone.

East Pier.—Repairing decking in different portions of pier, covering a total area of 125 by 16 feet, and replacing of 3 sheet piles at outer end of pier.

General.—Moving office formerly occupied by resident engineer, which was about 200 yards west of pier, up to and adjacent to the present office on west pier, to be used as a tool-house.

Expenditure during fiscal year was $2,499.29.

Dredging.

Under authority, work was performed in dredging the harbour of Rondeau between May 28 and June 19. The object of the work was to remove the shoal area to facilitate the operations of the car ferry in the turning basin section, car-ferry slip section and the lake Erie ferry-slip section.

Government dredge *Sir Richard, No. 120,* was engaged in doing this work and the work covered by this dredge was:—

1. Lake Erie ferry-slip section, length 300 feet, average width 30, and mean average depth before dredging 14.6 feet, dredged to 18 feet below L.W.L.

2. Car-ferry-slip section, length 275 feet, width 120, and average depth before dredging 12·9 feet, dredged to 18 feet below L.W.L.

3. Turning basin section, length 275 feet, width 60, and average depth before dredging 16·8 feet, dredged to 18 feet below L.W.L.

The material removed was nearly all sand, with a small portion of clay. The amount of material removed was 10,926 cubic yards, place, or 12,230 cubic yards, scow measure, giving an expansion factor of 11·9 per cent. This work will probably last about 3 years before it has to be redredged, as a considerable amount of drift sand is moved by storms in this locality.

ST. JOHN CREEK.

(This work is described in the annual report for 1915.)

St. John creek, in the county of Ontario, flows through the township of Rama, rising in St. John's lake and emptying into the Black river. On this creek a stoplog dam, for the regulation of the water level, was constructed. Work of improvement was carried on from 10th to 23rd May, and consisted in providing and placing the winches in position.

Total expenditure for the fiscal year 1915-16 is $277.95.

SAND POINT.

Sand Point, a station on the main line of the Canadian Pacific railway, is situated on Chats lake, in the county of Renfrew.

The public wharf, built in 1908, underwent extensive repairs and improvements in 1914. On account of the great number of pedestrians using this wharf, it was considered necessary to lay a narrow concrete walk along its entire length, and smooth off the broken stone backfill after it had thoroughly settled and packed.

During the period, September 23 to October 14, 283 lineal feet of 6-inch concrete walk, 2 and 3 feet wide, was laid, and 5,820 square feet of backfill on approach and landing-head was levelled and smoothed off.

Expenditure during the fiscal year, $156.68.

SARNIA.

Under authority, twenty days' dredging was authorized at Sarnia, work to be done by government dredge *Ontario, No. 114*. The object of the work was the dredging of a channel from deep water of Sarnia bay up to off the Cleveland, Sarnia Saw Mill Company's dock. The dredge was employed from May 27 to July 8.

The work carried on covered a length of 1,100 feet, average width 45 feet, and mean average depth before dredging 6·8 feet; area dredged to 12 feet below L.W.L.

The amount of material removed, place measurement, was 13,625 cubic yards, or scow measurement, 14,534 yards; an expansion factor of 6·1 per cent. The material removed was sand, silt and a certain amount of debris.

In regard to the length of time that this dredging would probably last, I beg to say that the fact that the Cleveland, Sarnia Saw Mill Company utilize this area for the purpose of dumping their carloads of logs, in consequence the churning of the water by this means has a great tendency to break down the banks adjacent thereto and to cause a great amount of filling in of the dredged area. The question as to how long the dredging will last in this locality is a problematical one.

SAUGEEN RIVER.

Saugeen river, in the county of Bruce, flows into lake Huron at Southampton, about 32 miles north of Walkerton and 31 miles south from Kincardine. It is an important fishing station.

Work of repair, by day labour, was commenced on 26th and completed on 29th July, and consisted in placing stone filling and gravel top dressing in the wharf.

Total expenditure for fiscal year 1915-16, is $21.25.

SAULT STE. MARIE.

Sault Ste. Marie, including the contiguous town of Steelton, has a population of some 20,000, and is situated on the St. Mary's river, opposite the St. Mary's falls, and is one of the oldest communities in Canada, having been founded by Fr. Jogues, in the year 1642. The Lake Superior Corporation's steel plant is the most important industry, representing an investment of upwards of $50,000,000.

Work of repair was commenced on the wharf 17th May and was completed 30th September, 1915. The work consisted in entirely renewing the concrete face-wall of the wharf, in places where it was badly damaged and in a dangerous condition. This wall is 6 feet high by 4 feet thick, and a total length of 250 feet was blasted out and renewed with fresh concrete, in workmanlike and permanent manner. Repairs were made where necessary to the concrete floor of the warehouse, and concrete decking outside the warehouse where necessary, having an area of 2,022 square feet.

The expenditure for the fiscal year is $4,997.20.

Dredging.

An extensive scheme of improvements to the harbour was commenced in the year 1912 and completed in 1915. Two contracts were entered into with The Soo Dredging and Construction Company, Limited, of Sault Ste. Marie, Ont., for the performance of dredging as follows:—

First.—The dredging of a portion of the ship channel of the St. Mary's river approaching the Canadian lock, under contract No. 8960, dated July 31, 1912, which provides for the removal of rock, at the unit price of $3.47, and 92 cents per cubic yard for all other materials, on a place measurement basis of payment, respectively.

Second.—Under an extension of contract No. 8960, the excavation of a slip between the Algoma Central Railway Company's coal wharf and the New Ontario Dock and Coal Company's wharf, at the unit prices of $3.47 per cubic yard, for rock, and 50 cents per cubic yard for all other materials, on a place measurement basis of payment, respectively.

Third.—Under contract No. 9065, dated October 14, 1912, the excavation of a slip on the easterly side of the New Ontario Dock and Coal Company's wharf, and the excavation of a slip on the easterly side of the International Transit Company's ferry wharf, at the unit prices of $3.47 per cubic yard for rock, and 92 cents per cubic yard for all other materials, on a place measurement basis of payment, respectively.

In the year 1915, several smaller items of dredging were undertaken and completed as follows: Improving the approach to the Lake Superior Paper Company's wharf by the Algoma Dredging Company, Limited, of Sault Ste. Marie; cleaning the area between the Algoma Central Railway Company's coal wharf and the ship channel of boulders, by the Soo Dredging and Construction Company, Limited, of Sault Ste. Marie; cleaning an area lying in front of the government wharf and ferry wharf of loose rock, to the standard grade level, by the Soo Dredging and Construction Company, Limited, of Sault Ste. Marie; dredging an approach and turning basin to the Imperial Oil Company's wharf by the government dredge *Industry, No. 109;* dredging an approach to the wharf of I. J. Downey & Son, by the government dredge *Industry, No. 109;* dredging to widen the slip at the International Transit Company's ferry wharf, by the government dredge *Industry, No. 109;* widening and extending the approach to the Lake Superior Paper Company's wharf by the government dredge *Industry, No. 109.*

Main Ship Channel.

The particular object of the contract to improve the main ship channel was to remove that part of the rock shoal which extended into the river beyond a line joining the outer end of the government ferry and New Ontario Dock and Coal Company's wharves, thus greatly widening the channel approaching the Canadian lock, and incidentally providing improved approaches to these wharves. Its length is about 4,000 feet, extending from the New Ontario dock to east of the government wharf, but the width is variable on account of the irregular contour of the shoal, and would average about 200 feet. The grade depth is 21·5 feet below the datum level of 582·37 feet above mean sea-level, which is the standard improvement plane adopted for improvments in the river at Sault Ste. Marie. The dredging performed in 1915, consisted principally of cleaning up, by the aid of a derrick scow and diver, the more or less scattered pieces of blasted rock not previously removed by the dredges. Work was commenced on May 1, and was completed on 30th September, during which period 1,012 cubic yards, place measurement, of rock and 324 cubic yards of boulders were removed, for which a final estimate was returned in favour of the contractors, amounting to $4,635.92. The contract is now completed, and has been carefully swept and proved to grade, under the personal direction of the assistant engineer in charge.

The expenditure for the fiscal year 1915-16 was $8,305.96.

The total area covered by this work is a little over 12 acres, and the total quantities of materials excavated are: 84,238 cubic yards, place measurement, of rock, 324 cubic yards, place measurement of boulders, and 16,507 cubic yards, place measurement, of stones, small boulders and mud, total, 101,069, for which the contractors have been paid a total of $308,616.58.

Algoma Central Railway Slip.

The object of this work was to excavate a slip, or mooring-berth, between the coal wharf built by the Algoma Central Railway Company and the wharf of the New Ontario Dock and Coal Company, to enable large vessels to unload at either of these wharves. The area covered was 140 feet wide by 800 feet long, and the grade depth is 21½ feet below the standard improvement plane at Sault Ste. Marie. Dredging was commenced for the season of 1915 on April 16, and was completed on April 24, during which period 68 cubic yards of rock and 123 cubic yards of mud and other materials were removed, for which a final estimate was returned in favour of the contractors, amounting to $297.46. The whole area covered by this authority was carefully proved, by "sweeping," to be cleaned to the grade level. The total quantities of materials returned on estimates for this work are 5,451 cubic yards of rock and 22,227 cubic yards of stones, boulders and mud, representing a total expenditure of $30,028.47.

New Ontario Dock Slip and Ferry Dock Slip.

A contract was entered into with the Soo Dredging and Construction Company, Limited, on October 14, 1912, for the excavation of a slip, 520 feet long by 75 feet wide, to a depth of 21½ feet below low water level, to enable coal barges and other large vessels to moor alongside the east side of the New Ontario Dock and Coal Company's wharf. This company handles, over this wharf, some 35,000 tons of coal per annum. To excavate a slip, 300 feet long by 60 feet wide, to a grade depth of 21½ feet below low-water level, along the east side of the International Transit Company's ferry-wharf. The unit contract prices were $3.47 per cubic yard for rock, and 92 cents per cubic yard for all other materials, place measurement, respectively.

The final estimate for this contract including both slips was passed in January, 1916, in which 655 cubic yards of rock, and 308 cubic yards of other materials, were returned for payment, amounting to $2,556.21, of which 315 cubic yards of rock, representing $1,093.05, should be charged against the New Ontario dock slip. The

total quantities included in the final estimate, taken from the New Ontario dock slip are 5,430 cubic yards of rock, and 11,289 cubic yards of boulders, clay, stones and mud, place measurement, respectively, representing an amount paid to the contractors of $29,227.98.

Ferry Dock Slip.

Dredging was commenced on April 14, 1915, and was completed on April 20, during which period 340 cubic yards of rock, and 353 cubic yards of small boulders, clay, etc., were removed.

The total quantities dredged from this slip are: 5,170 cubic yards of rock, and 4,129 cubic yards of small boulders, clay and stones, etc., representing, at the unit contract prices, an amount paid to the contractors of $21,738.58.

The total quantities of materials removed from these two slips from the commencement to the completion of the contract are: 10,600 cubic yards of rock, and 15,418 cubic yards of small boulders, stones, clay, etc., representing a total amount paid to the contractors of $50,966.56.

Lake Superior Paper Company's Slip.

The object of this work was to widen the channel approaching the Lake Superior Paper Company's wharf to a minimum width of 180 feet, to enable vessels of 16 to 17-feet draught to take on cargoes of manufactured pulp and paper. The area dredged is about 600 feet long, and varies from 20 to 100 feet wide, and was deepened to 17½ feet below the standard improvement plane at Sault Ste. Marie. This Company has a large plant employing some 1,500 men and manufactures about 500 tons of newspaper per day, which, during the navigation season, is mostly shipped by water.

Instructions were given in June, 1915, to commence dredging in the approach and alongside the Lake Superior Paper Company's wharf, in accordance with the agreement of the Algoma Dredging Company, Ltd., to remove a quantity not to exceed 10,000 cubic yards, place measurement, of class "B" material, consisting of small boulders, clay, etc., at the unit prices of 48½ cents per cubic yard, place measurement, and $3.50 per cubic yard, place measurement, for rock. Work was accordingly commenced on 28th June and completed on 27th August, during which period 8,636 cubic yards of small boulders, clay and mud, and 79 cubic yards of boulders, containing over 2 cubic yards each and, therefore, classified as rock, were removed, for which estimates were returned in favour of the Algoma Dredging Company, Limited, amounting to $4,464.96.

The total expenditure for the fiscal year 1915-16 was $4,674.96.

Front A. C. R. Dock.

Several complaints having been made by the Canada Steamship Lines regarding boulders which two or three of their vessels had struck, lying in front of the Algoma Central Railway Company's coal wharf, and an examination having proved the presence of a considerable number of these boulders having only about 17 feet of water over them, lying in such a position as to be a menace to navigation, the department authorized the acceptance of the Soo Dredging and Construction Company's offer to remove them by the employment of a derrick-scow and diving outfit, at the unit price of 75 cents per cubic yard, scow measurement.

Instructions were issued 24th July, 1915, to remove not more than 2,000 cubic yards, and work was commenced on 11th August and completed on 16th August, during which period 1,812 cubic yards of small boulders and mud were removed, representing the sum paid to the contractors of $1,359. The area covered was about 500 feet in length by an average width of about 80 feet, and it was proved, by "sweeping," to be cleaned free of obstructions to the grade depth of 21½ feet below the standard improvement plane.

Obstructions on River Bed in Front of Government Wharf.

Incidentally to the sweeping and cleaning of the area of the dredging being performed by The Soo Dredging and Construction Co., Ltd., under contract No. 8960, it was found that many boulders and pieces of rock littered the bed of the river outside this area and extending to the International boundary, and in many spots rocks having less than 19 feet of water over them, were located. The area which was "swept," to determine the extent of these shoal spots, is about 4,000 feet long by an average width of about 800 feet, lying between East street, produced, and Simpson street, produced, and in large part within the ordinary courses of navigation by deep-draught vessels.

It was decided to undertake the cleaning up of this area to the standard grade level, and instructions were issued 8th November, 1915, to hire the derrick-scow and sweeping plant, including diver and crew, of The Soo Dredging and Construction Co., at the rate of $75 per day, for a period not to exceed 30 days, in order to obtain as much improvement as possible before the close of the season.

Work was commenced on November 10, 1915, and was suspended for the season, owing to stormy weather, on 18th November, 1915, during which period 117 cubic yards, scow measurement, of boulders and large pieces of blasted rock were removed from the area represented by the west side of Gouin street, produced, and the line of the Sault Ste. Marie Coal and Wood Company's wharf, produced, which passes the west end of the government wharf, and is approximately 550 feet long by an average of about 680 feet in width. The Soo Dredging and Construction Company, Limited, were paid for 7·85 days' hire of the plant, or $588.75.

The Imperial Oil Company's Wharf.

Application having been made by the Imperial Oil Company for dredging to be performed in order that their large oil-carrying boats might land and turn at their wharf, which is a part of their large distributing plant for this district, the department decided to do the work with the departmental dredge *Industry, No. 109*. Work was commenced by the *Industry* on May 10, and suspended on June 29, during which time 28,770 cubic yards, scow measurement, estimated at 28,000 cubic yards, place measurement, were removed and scowed away to the dumping-ground near Topsail island, 1¼ miles distant from the work. The area dredged consisted of a slip alongside the wharf, 80 feet wide by 180 feet long, and a turning basin, 480 feet wide by about 500 feet long, and the grade depth was 21½ feet below the standard improvement plane. The inner end of the slip was not completed, however, to grade, as rock was encountered.

In the operation of proving the completeness of the work by "sweeping" it was found that a number of boulders remained, projecting above grade, and as it would be difficult and expensive for the *Industry* to remove them, it was considered much more economical to have this done by the special plant equipped for this purpose owned by The Soo Dredging and Construction Co., Ltd., and therefore, instructions were issued 2nd July, 1915, to hire this plant including diver and all working expenses, at the price of $75 per day, for a period not to exceed 15 days. It was further stipulated that this authorization also covered the removal of boulders at Downeys slip. Work was commenced on 24th September and completed on 12th October, during which period 355 cubic yards, scow measurement, of stones and boulders were removed, and an account was returned in favour of The Soo Dredging and Construction Company, Limited, for $900, representing 12 days' hire.

L. J. Downey and Son's Wharf.

Messrs. L. J. Downey and Son, dealers in coal, cement and builders' supplies, having made representations to the department that they were debarred by the posi-

tion of the harbour headline from extending and completing their wharf to the edge of the deep water channel, notwithstanding that this work had been much desired by them, and in fact they had practically concluded a contract for its construction at the time the restrictions imposed by the establishment of the harbour headline were brought to their attention. They, therefore, petitioned the department to perform a small amount of dredging to enable coal barges and package freight boats to approach and moor to their present wharf.

The department therefore authorized improvements to be made by the government dredge *Industry, No. 109,* for their relief, and instructions were given 5th June, 1915, for the removal of 1,200 cubic yards of sand, stones and boulders, and dredging an approach to and slip alongside of Messrs. Downey and Son's wharf, the approach to have a width on the channel line of 160 feet, gradually decreasing over a length of 80 feet, to make a bell-shaped mouth to the slip, which latter was to be 40 feet wide by 100 long, and the grade depth was to be 15 feet below zero, or to rock in case the rock projected above the grade depth. Work was commenced on June 30, and completed on July 2, 1915, during which time 1,503 cubic yards, scow measurement, or 769 cubic yards, place measurement, of sand and boulders, were removed, including some 44 cubic yards shoved outside the lines of the work, but not scowed away.

In order to clean the bottom of the scattered stones and boulders which the dredge missed picking up, and to save the high expense involved in requiring the *Industry* to remove them, the sweeping plant and derrick-scow of The Soo Dredging and Construction Company, Limited, was hired to do the work. The derrick-scow commenced work on the 2nd and completed it on the 5th August, 1915, during which time 67 cubic yards of boulders, sand, etc., were removed, for which an account was paid to the company amounting to $217, representing 31 hours' time at $7 per hour.

Widening Ferry Wharf Slip.

The International Transit Company having petitioned for further dredging, to widen the slip alongside their ferry wharf, to enable the ferryboat to be handled with a greater degree of safety, authority was given to have the improvements performed by the departmental dredge *Industry, No. 109.* Work was commenced on July 3, 1915, and completed on 5th, during which time 1,270 cubic yards, scow measurement, of small boulders, clay and mud, and some ledge rock, were removed and scowed away about two miles to the dumping-ground, and 238 cubic yards were shoved outside of the lines of the work but not removed. The area covered extends from the edge of the ship channel shorewards, a distance of 100 feet and is 40 feet wide, and the depth made averages about 20 feet. The intention was to make a minimum depth of 16 feet, or to dredge as nearly as possible, consistent with the character of the bed rock, to a standard grade level of 21½ feet below the improvement plane. It was known that the rock bottom, which is a red sandstone, was considerably above this grade level, and it is interesting to note that the *Industry* removed considerable of it without undue effort.

Lake Superior Paper Company's Slip.

The Lake Superior Paper Company, in their letter of July 2, 1915, while expressing appreciation of the dredging already performed in their slip by the department, asked that their original proposal be extended, to cover an additional area, as it was found their vessels had much difficulty in leaving their wharf, owing to the insufficiency of turning basin and the narrowness of the approaching channel. The department having decided to make the improvements asked for, instructions were given to have it performed by the departmental dredge *Industry, No. 109,* which would soon be available. It was commenced on September 9, and completed on 25th, 1915, to a grade depth of 17½ feet below the standard improvement plane, and 11,632

cubic yards, scow measurement, were removed and scowed to the dumping-grounds, about 2·7 miles away.

It is almost invariably found that it is practically impossible for a dipper dredge to perform its work in such a manner as to leave a clean and completed bottom, unless excessive depths are made, which, of course, is not an economical practice, in view of the fact that the stones, boulders or broken rock, which are usually the materials remaining above grade in the areas covered previously by the dredge, can be picked up and removed with relative small expense. It is the custom, therefore, to follow this latter method, and such a plant consists of a derrick-scow provided with a diver and diving apparatus, and under which is hung by chains or wire ropes a heavy bar of iron at the proper grade level. This outfit is usually operated by moving it slowly back and forth across the dredged area, and when a "strike" occurs, the diver goes down and directs the removal of the obstruction by a clam shell bucket if the material is a heap or ridge of small material, or by chains if it be a large boulder. The department not having such an outfit in connection with the dredge *Industry,* instructions were issued 6th October, 1915, to hire the one belonging to the Soo Dredging and Construction Company, at $75 per day, to clean up this dredging. The derrick-scow commenced work on October 15, and completed it on October 20, 1915, during which time 110 cubic yards of stones and boulders were removed, and for which an account was paid to the company, amounting to $300, representing four days' hire

SHANTY BAY.

Shanty Bay, in the county of Simcoe, is situated on Kempenfeldt bay, an arm of lake Simcoe, 7 miles east of Barrie. Population, 100. It is a farming centre and a summer resort.

Authority was received to place a life chain on the new wharf at this place; the work was completed in November, and consisted in placing 180 feet of ¾-inch coil chain along the face of the wharf, and providing lamp posts.

Total expenditure for fiscal year 1915-16 is $32.93.

Dredging.

Authority was given to have Messrs. Conroy Bros. remove the necessary material to permit of lake steamers landing at the dock; the estimated quantity being 1,650 cubic yards, *in situ,* and the price 50 cents per cubic yard. Work was commenced on 7th and was completed on 25th May, when an area was dredged on the east side of the wharf, 50 feet by 75 feet, all to a depth of 8 feet 6 inches below zero. In doing this work some 1,645·7 cubic yards of gravel and boulders were removed.

Total expenditure for fiscal year 1915-16 was $864.25.

SILVER CENTRE.

Silver Centre is a landing on the west shore of lake Timiskaming, Nipissing district, 22 miles south of Haileybury, and is the shipping point for the mining section of South Lorrain.

In 1908, construction was commenced on the public wharf, to accommodate traffic at this point. In 1913 the wharf was raised 3 feet, and a larger freight shed built at the same time. The wharf is accessible from Government road on the north and another road to the south.

During the past year, it was necessary to replace the ice-boom between the small pile-work ice-breakers and wharf, a portion of which had been carried away by the spring ice-shove. Ninety lineal feet of 2-ply ice-boom, with bolted rods, cross-pieces, connecting chains and ring bolts, was built in two sections, and securely placed in position to protect the wharf.

Expenditure during the fiscal year, $200.

STURGEON FALLS.

Sturgeon Falls, a town in Nipissing district, is on the main line of the Canadian Pacific railway, 24 miles west of North Bay. It is situated on the Sturgeon river, four miles above its mouth.

A public wharf was built in 1903-4, the town providing the site and right-of-way (Wharf lane). The wharf was repaired in 1907, raised 2 feet and improved in 1911-13 and extended in 1915-16.

Work on the extension was completed June 14 to July 24, and consisted of: Levelling up of cribwork landing face, placing of niggerheads, fenders and capping; building of freight shed, 16 by 24 feet, with matched lumber walls and corrugated iron roof, on short cedar piles. In addition, a roadway, 12 feet wide by 325 feet long, leading to King street, was graded in the side hill, the material excavated, some 1,400 cubic yards, being deposited behind the cribwork landing face, and graded to the elevation of the deck, 646·0. The roadway was provided with 6-inch to 12-inch wearing surface of broken brick, etc.

Expenditure during the fiscal year, $1,108.39.

Dredging.

The departmental dredge *No. 112* worked at the entrance of the dredged channel at the mouth of the Sturgeon river, 4 miles below the town, October 27 and 28, making a berth for the gas buoy. The work performed consisted of a single cut 90 feet long to grade 622. Quantities removed, 900 yards, scow measure, sand and clay. From November 1 to 5, the plant worked in the bay near the government wharf, removing a bar which had formed in the boat channel. A single cut was made 35 by 185 feet, dredged to grade 628·0. Quantities 2,160 yards, scow measure, of silt.

SYDENHAM RIVER.

The Sydenham river runs through the townships of Brooke, Euphemia, Dawn, gore of Camden and gore of Chatham, and joins the Chenal Ecarte about 2½ miles west of the town of Wallaceburg. From Wallaceburg down it is a large deep, navigable stream; above the town it divides into two branches, the north branch runs to Wilkesport, 14 miles, and the east branch to beyond Dresden, 15 miles away.

Authority was given for removal of obstructions in the east branch of the river, by day labour. Work was commenced May 10, was completed June 30, and consisted in the removal of logs, snags, etc., between Dresden and Tupperville, and in the performance of this work, 416 pieces of debris were removed.

Expenditure during the fiscal year 1915-16 was $300.

THESSALON.

Thessalon is a town of some 1,400 in population, situated on the north shore of the north channel of lake Huron, and on the Soo line branch of the Canadian Pacific railway, about 50 miles east of Sault Ste. Marie.

Work of completing the concrete superstructure of the wharf was commenced 3rd May and was completed 31st July, 1915, and consisted in removing the old decayed superstructure of timber and replacing it with concrete and stone filling. During 1914, the inner portion of the wharf, 22 feet by 175 feet long, was repaired in this way, and this season, the remaining outer portion, 150 feet by 30 feet, was completed.

The expenditure for the fiscal year is $5,082.52.

THORNBURY.

Thornbury, in the county of Grey, is situated at the mouth of the Beaver river, which empties into the Georgian bay. Population, 1,200.

Work of repair, by day labour, was commenced 9th and completed on 31st July, and consisted in renewing, where required, the decking on the wharf at the chemical works.

Total expenditure for fiscal year 1915-16 is $301.68.

TORONTO.

(This work is described in the annual report for 1915.)

Toronto, county of York, is a city of some 445,000 inhabitants, situated on the north shore of lake Ontario.

During June, 1915, a board was appointed to investigate condition of the work as performed by the Canadian Stewart Co., Ltd., and to make a further report upon how this work might be placed in proper condition. The first report was made by this board during July, and as a result a change was made in the staff supervising the work, and the second report of the board was made during October, in which it was recommended that the contractors be required to place the work in accordance with certain plans submitted by the board. As a result of the board's reports and recommendations, the Canadian Stewart Co., Ltd., agreed to place their work in such condition that it is in accordance with the rectification plans, as submitted by the board, without any extra payment by the department. The preparations were made during the winter, by the contractors, for prosecuting the rectification work during the next season.

Repairs.

The harbour is formed by a low-lying piece of land, now an island but formerly a peninsula. There are three entrances to the harbour through the island, namely, the eastern, the western and the old western, all of which are protected by piers.

The sum of $4,500 was authorized to be expended, by day labour, for the protection of the island breakwater; work was commenced 28th April and was completed 5th August, and consisted in placing large stone where required.

The sum of $250 was authorized for the renewal of the life-chain on the piers of the new western channel. This work was duly performed in August last. Repairs and improvements to the derrick-scow belonging to our plant were duly performed, and consisted in renewing the scow, where required, and placing and securing the machinery.

Total expenditure for the fiscal year 1915-16 is $5,551.98.

Dredging.

Authority was given to remove 122,350 cubic yards from the channel and approach from the lake thereto, at the eastern gap or channel, a contract for same having been awarded the R. Weddell Company at a rate of 11 cents per cubic yard. Work was commenced on 15th July, but on account of weather conditions operations were discontinued on 10th November. The approach from the lake was dredged for 1,000 feet in length by 300 in width, to a depth of 24 feet below low water, and between the piers the channel was cleaned out to a depth of 18 feet below low water, for a length of 1,480 feet by 200 feet width.

TRENT BRIDGE.

Trent Bridge, in the county of Northumberland, is situated on the Trent Valley canal system about 2 miles from Havelock on the Canadian Pacific railway. Population, 1,000.

Work on the completion of the wharf, by day labour, was resumed 28th July and was completed 11th September, and consisted in launching the crib, landing same in position and placing the concrete block and mass concrete of the superstructure. The wharf is 100 feet long by 20 feet wide.

Total expenditure for fiscal year 1915-16 is $2,195.75.

TRENTON.

Trenton, in the County of Hastings, is situated on the Bay of Quinte, at the mouth of the Trent river, 100 miles east of Toronto. It is the southern terminus of the Trent canal and a station on the Grand Trunk, Canadian Pacific and Canadian Northern railways, and is a port of call for vessels plying on Lake Ontario. Trenton has many industries. Population, 5,000.

Instructions were issued to sweep the entrance channel to Trenton harbour, which had been completed last year, and a sum of $700 was authorized for this purpose. This work was duly performed in June, and it revealed the fact that the work had been satisfactorily completed.

Authority was given for the removal of some 45 cubic yards of rock at the wharf of the Cold Storage Company. Negotiations were entered into with the R. Weddell Company to perform this work, but up to date no decision has been reached. The work being so close to the structure, it is highly dangerous and liable, during blasting operations, to detrimentally affect the wharf.

Total expenditure for fiscal year 1915-16, $700.

WELLINGTON.

Wellington, in the County of Prince Edward, is situated on West lake, an arm of Lake Ontario, and is on the Canadian Northern railway, about 9 miles west of Picton and 17 miles south of Trenton. It is a popular summer resort and is located in a fine agricultural section. Population, 700.

Work on the wharf, commenced last year, was resumed in April, completed on 11th September, and consisted in the construction of a line of close sheet-piling, 400 feet long on the east side; a line of some 200 feet long on the southwest side of the turning basin, and a breakwater running in a southerly direction, 1,000 feet long, composed of pile cribwork; a wharf of cribs and spaces with a pile approach, 250 feet long, and the dredging of a channel to a depth of 12 feet.

Authority was received to construct the wharf of cribwork, 250 feet long, instead of it being piling, as originally designed, same to be done at unit rates and amounting to, approximately, $7,058.50, also to cut off ends of 170 bolts at cost plus 10 per cent, or approximately $40. This was duly performed.

Total expenditure for fiscal year 1915-16 is $44,565.57.

WENDOVER.

Wendover is a post-settlement in Prescott county, located at the mouth of the South Nation river, 31½ miles below Ottawa. It is a station on the Canadian Northern railway, 24 miles from Hawkesbury.

In 1901, the department commenced construction of a public wharf for the traffic of Wendover and surrounding country. In July, 1 to 17, a new 3-inch flooring was placed on low-level landing, 36 by 30 feet; the slip of same landing was lowered from elevation, plus 7·5 to elevation, plus 4 above ordinary low water, to facilitate handling of heavy freight, and minor repairs were made to waling and approach flooring system.

Expenditure during the fiscal year, $192.39.

WINDSOR.

The city of Windsor is situated on the Detroit river, in the County of Essex and is a terminus, in Canada, of the Grand Trunk, Canadian Pacific, Michigan Central and Pere Marquette railways. It is a thriving and prosperous city, with a population of about 25,000.

Work of improvement on the landing dock was commenced May 12, was completed February 3, 1916, and consisted of the following: The dismantling of two clusters of fender piles in front of the down-stream end of warehouse, the pulling of these piles and redriving them in the new location, replacing and rebolting up these clusters as formerly constructed; the construction of four sets of steps in rear of dock to facilitate the traffic to and from the dock; all clusters of fender piles, of which there were 18, were faced with white oak sheeting, 4 inches thick, to protect dockage of boats; four rows of longitudinal sheeting, consisting of 3 by 10 hemlock, was placed along the foundation piles of the boathouse; three slipways were cut in the concrete dock to facilitate the loading and unloading of freight; a timber runway was built to facilitate the handling of traction engines and automobiles in loading and unloading; small repairs were made to boathouse; all fender piles in front of boathouse and sheeting on same were given two coats of paint, and a set of steps were built leading from the rear of boathouse to Sandwich street.

Expenditure during the fiscal year 1915-16 was $1,427.62.

MANITOBA.

ANDERSONS.

To enable settlers at the south of Big island to transport their farm produce, agricultural machinery, etc., by water to and from the newly established terminus of the Canadian Pacific railway at Icelandic river, a channel was dredged by P. W. D. *No. 204*, from deep water in Icelandic bay to an old wharf on Big island, at Andersons, Selkirk county.

The channel, as completed, has a length of 769 feet, a width on bottom of 40, and carries a depth of 6 feet below low water. It was necessary to cast over the material, which will in time require further dredging owing to filling in.

Operations were carried on between July 26 and August 2, 1915. The quantity removed being 5,275 cubic yards, place measurement, of clay. Only one cut was necessary and the work was done at a cost of 11·6 cents per cubic yard.

Total expenditure, $611.38.

CRESCENT ISLAND.

The work at Crescent island, Selkirk county, was for the purpose of improving the navigable channel in the Red river, and increasing the sectional area of the river for the purpose of lessening the liability of the spring run of ice, jamming and flooding Selkirk. Further dredging is proposed for the ensuing fiscal year.

P. W. D. *No. 202*, worked October 26 to 30, 1915, removing 2,596 cubic yards, at a cost of $473.16, averaging 18·2 cents per cubic yard. P. W. D. *No. 205*, worked July 9 to 24, and October 11 to 29, removing 24,832 cubic yards, at a cost of $2,982.99, averaging 12 cents per cubic yard.

The total cost of work done was $3,456.15, and quantity 27,428 cubic yards, averaging 12·6 cents per cubic yard. The dimensions of work by dredge *No. 201* was 2,136 by 40 feet, and by dredge *No. 202*, 352 by 40 feet. The depth of water provided at low water was 9 feet.

GIMLI.

Gimli, Selkirk county, is on the west side of Lake Winnipeg, and is reached by steamers from Selkirk and Winnipeg. The Canadian Pacific railway station is about three-quarters of a mile back from the wharf.

P. W. D. *No. 204* worked between August 2 and August 26, 1915, and cleaned out, to a depth of 11 feet below low water, the refuge basin, 120 feet wide and 250 to 300 feet long, inside the outer leg of the government pier. The berths along the pier on the two legs next the shore were also cleaned out to the same grade, and provided additional berthing room, 40 feet wide, on a length of 290 feet. In doing this work, 7,500 cubic yards, scow measurement, of clay and rock were removed, at a cost of 23 cents per cubic yard.

Total expenditure, $1,725.42. It is expected that in time the area dredged will fill in, by sand washed in under the influence of southerly winds, against which there is no protecting pier.

HNAUSA.

For the purpose of providing deeper water for boats calling at Hnausa, Selkirk county, P.W.D. *No. 202* worked from June 28 to July 10, 1915, deepening the approach and berth on the south side of the government pier.

One cut was all that was necessary; length 260 feet and width 40, and the depth of water provided at low water was 9 feet. In order to provide a place of safety for the dredge, an area, 110 by 40 feet, was dredged inside the "L," on the north side of the wharf. The total quantity removed was 2,179 cubic yards, scow measurement, which was dumped at a distance of one mile.

The cost was 37·3 cents per cubic yard, total expenditure, $813.35.

HOWARDVILLE.

Howardville is in section 24, township 24, range 4, east of principal meridian, Selkirk county.

It was necessary to provide an approach and harbour to enable the settlement to receive supplies and ship farm products, lumber, etc.

P. W. D. *No. 202*, worked from August 16 to September 8, 1915, making one cut, 2,120 feet long and 40 feet wide. The total quantity removed was 10,826 cubic yards, scow measurement, consisting of hard clay. The material was scowed an average distance of 1½ miles. Depth of water provided at low water was 5 feet. The cut will in time collect sediment. The average cost per cubic yard was 21·3 cents, and the total expenditure was $2,306.86.

ICELANDIC RIVER.

The work at this place was for the purpose of providing a navigable channel between Icelandic river and Icelandic bay, Selkirk county, an arm of Lake Winnipeg. The government wharf is nearly four miles up the river. It was built a number of years ago.

During 1914, the Canadian Pacific railway extended the Gimli branch, and the present terminus is about a quarter of a mile from the wharf, but on the opposite side of the river. The dredged channel will collect sediment, and maintenance dredging will have to be done.

P. W. D. *No. 202*, worked from July 12 to August 14, 1915, removing 6,962 cubic yards, at 27·2 cents per cubic yard, amounting to $1,892.86.

P. W. D. *No. 204*, worked from August 27 to October 2, 1915, removing 10,148 cubic yards, at 22·5 cents per cubic yard, amounting to $2,282.37.

The total quantity removed was 17,110 cubic yards, average cost 24·4 cents per cubic yard, and the total expenditure $4,175.23. These dredges worked on one continuous cut, total length 3,170 feet and width 40 feet. The material was hard clay in the bottom, soft clay on top. Average distance scowed, 2 miles.

KILDONAN.

This work was done during April and May, in conjunction with the Canadian Pacific railway, at a point where the Bergen cut-off crosses the Red river.

The object was to ascertain the cause of the short pier of the bridge sliding and incidentally collect evidence disproving that it had been caused by lowering the regulated water in the river. Ten holes were sunk with a diamond drill; in each case the holes were carried to bedrock and account was kept of the different materials to that level. These holes varied in length from 38·4 feet up to 72 feet in depth, with an average depth of 61 feet. Wash borings were made through the softer materials.

A large bed of sand was found which would act as a storage reservoir, from which it was concluded that this water flowed into the surrounding clay and saturated it to such an extent that it no longer provided sufficient bearing power to sustain the pier.

PINE CREEK.

Pine Creek is on the west shore of Lake Winnipegosis, Dauphin county. The trade at this point is by water with the supply point Winnipegosis, a terminus on the Canadian Northern railway.

For the purpose of improving the navigable channel *P. W. D., No. 210,* worked from August 9 to 16, 1915, making a cut 1,309 feet long by 25 wide, at the mouth of the creek, removing 3,254 cubic yards, place measurement, clay, sand and stones. This was cast over. Average depth of water provided at low water, 6 feet. Further maintenance dredging will be required. The average cost of the work was 19·8 cents per cubic yard, and the total cost was $642.73. This amount includes $72.48 for rental of a tug, as the government tug could not safely handle the dredge on the tow to Pine Creek.

RED RIVER.

New Entrance Channel.

At the end of the fiscal year 1914-15, protection work on both sides of the channel was constructed outward in the lake to Sta. 28-00, with additional shore work on the west bank of the new cut, to protect the bank from the action of the waves during storms.

During 1915-16, work was carried on throughout the winter and finished at the end of February, completing sheet-piling on either sides of the channel, placing stone ballast within the completed work and changing class A into class B work, as this class of work appears to be the only kind to withstand the action of the waves. Work began in the fall of 1914, as soon as the ice was strong enough to work upon, and continued until the end of February, 1916, when the work was completed.

Following is a synopsis of work performed:—

On the east side of the channel, southerly to bank, 620 feet was changed to class B; a distance of 500 feet, class B work was sheet-piled on channel side; 600 feet was sheet-piled on outer side, making the work class B sheet-piled on both sides to end of work.

On the west side, southerly along back of new cut, a distance of 385 feet was sheet-piled; for a further distance of 456 feet southerly the existing work was straightened and anchored to anchor piles; work was changed into class B for 180 feet, and sheet-piled on outer side, also 146 feet, 390 feet, 460 feet, and 477 feet was sheet-piled on

outer side, braced and bolted, completing the stucture. In changing class A work to class B work, the necessary tamarack piles were driven, and before sheet-piling, a wale 8 by 12 inches was screw-bolted to the piles.

Nine hundred cords of stone were purchased and delivered on site of work during the summer of 1915, when material could be obtained and delivered cheaper than in winter. The stone was placed in the protection piers during the winter. The work is now ballasted from end to end on both sides of the channel. At the shore end of the work on each side, a short wing-dam was constructed into the channel to prevent erosion by waves from the lake.

A wharf, 20 by 60 feet, was constructed on the west side of the new cut just south of the old wharf, which had been in a bad state of repair.

Expenditure for the fiscal year is $29,915.43.

Middle Ground Dredging.

The work at this place was for the purpose of improving the navigable channel in the Red river, north of Sugar island, and increasing the sectional area of the river, for the purpose of lessening the liability of the spring run of ice, jamming and flooding Selkirk and vicinity.

P.W.D. *No. 201* worked August 16 to October 25, and October 29-30, removing 95,311 cubic yards, at a cost of 5·4 cents per cubic yard, amounting to $5,161.58.

P.W.D. *No. 202* also worked from October 14 to 26, removing 7,729 cubic yards, at a cost of 16·5 cents per cubic yard, amounting to $1,271.75.

The total expenditure by the two dredges was $6,433.33, averaging 6·2 cents per cubic yard. Total quantity, 103,040 cubic yards. P.W.D. *No. 201* made one cut 3,143 by 100 feet, and P.W.D. *No. 202* one cut, 1,310 by 40 feet.

The quantities given above for P.W.D. *No. 201* are place measurements, and the material was discharged near the shore; those for dredge *No. 202* are scow measurements, and the material was towed half a mile. The material was sand, clay and gravel. The depth provided at low water was 9 feet. These cuts may fill in by river sediment.

New Channel.

The work at this place was for the purpose of deepening and maintaining the new navigable channel between the Red river and Lake Winnipeg. This channel carries all the tonnage passing between Winnipeg, Selkirk and other Red river points, and all points on Lake Winnipeg. It is anticipated this channel will collect river sediment and sand drifting on the lake bottom. Further maintenance dredging will be required.

The following departmental dredges were employed in the work:—

No. 201, May 1 to August 12, and October 26 to 28, removing 80,730 cubic yards at a cost of 6·1 cents per yard, amounting to $4,821.78.

No. 202 removed 8,673 cubic yards, at a cost of 27·8 cents per yard, amounting to $2,410.41, and *No. 204* removed 7,980 cubic yards, at a cost of 22·8 cents per cubic yard, amounting to $1,820.46. Total quantity removed, 97,383 cubic yards.

The total expenditure of the three dredges was $9,152.65, averaging 9·4 cents per cubic yard. The above quantities for dredge *No. 201* are place measurements, those for *No. 202* and *No. 204* are scow measurements.

The material dredged by *No. 201* was discharged back of the protection work, or at a considerable distance from the cut. The quantities given for the other dredges were scowed one to one and a half miles.

The areas dredged are as follows: P.W.D. *No. 201*, 270 by 40 feet, 395 by 70 feet, 222 by 140 feet, 1,964 by 150 feet. P.W.D. *No. 202*, 857 by 40 feet, and P.W.D. *No. 204*, 538 by 40 feet.

The dredging by P.W.D. *No. 202* and *204* was for the purpose of easing the curve in passing from centre channel to the new channel.

The depth provided throughout at low water was 10 feet. The work will require maintenance dredging. The cuts north of the protection will be filled by river sediment and driftiug lake sand.

ST. ANDREWS DAM.

This work of grading the banks was an extension of that done in the previous fiscal year.

Great difficulty was experienced with slides, as the material of the bank is the clay from the excavation of the canal approach, and was affected by ground water. Test holes were sunk back of the top of the slope, and away from the river, which showed the location and depth of the percolating water. A stone drain was put in at the crest of the slope to collect this water, and seven lateral drains down the slope were used to carry it to a drain at foot of the slope, and from there to the river.

At the same time, the grading was proceeded with, and a set of concrete steps were built. Owing to the start of the work being delayed, it was impossible to complete it.

Expenditure for fiscal year is $5,382.

Dredging.

The work at this place was for the purpose of diverting the water below the dam from the navigable approach to the lock. It provided more room for the water to get away from the lower part of the dam. Further work is to be done during the ensuing fiscal year.

The work was done by the following departmental dredges:—

No. 202 worked June 5 to 9, removing 295 cubic yards, at a cost of $354.95, equal to $1·203 per cubic yard.

Dredge *No. 205* worked June 26 to October 9, removing 19,774 cubic yards, at a cost of $5,142.33, equal to 26 cents per cubic yard. The total cost of the work, by the two dredges, was $5,497.28, averaging 27·5 cents per cubic yard.

The outside dimensions of the dredging are 800 by 160 feet, and the actual area 101,524 square feet. Total quantity removed by both dredges, 20,069 cubic yards. The quantities are scow measurements, and the material was towed from half a mile to six miles. Scows containing a large portion of the rock deposited it near the regulated shore line above the lock, where it could be obtained at low water for bank protection. A large quantity was used for the rock drains in the banks north of the bridge on the west side.

The depth provided at low water was 7 feet.

SELKIRK.

The Selkirk wharf, from the new portion near the marine railway to the south end, was redecked; a new curb and wale were also placed on the wharf; an extension about 60 feet long, for the purpose of better protection from ice flows, was built across the end of Manitoba avenue, and the decking was coated with *carbolineum avenarius.*

Expenditure for the fiscal fiscal year was $4,756.48.

Dredging.

Owing to the very low water, it was found necessary to deepen the berths at the wharf. For this purpose P. W.D. *No. 204* worked from May 31 to June 17, removing 8,640 cubic yards clay, scow measurement, at a cost of $1,902.09, averaging 22 cents per yard. The material was scowed a mile, and the average depth of water provided 9 feet. The area dredged was in two cuts totalling 1,452 by 40 feet. It is not expected much river sediment will be deposited at this place.

SELKIRK SLOUGH.

The work at this place was for the purpose of providing deeper water between the government shipyard and the Red river. It also accommodates numerous shipowners who have properties along the slough, and forms a safe winter harbour for nearly all the boats on Lake Winnipeg and the Red river. A siding of the Canadian Pacific railway extends for half a mile along the west bank.

Owing to the washing down of the bank by passing steamers it will be necessary to do further dredging.

The work was done by Public Works dredges as follows:—

Dredge *No. 202* worked June 10 to 26, removing 8,201 cubic yards, at 21·3 cents per cubic yard, amounting to $1,745.02. Dredge *No. 204* worked May 11 to 29, removing 14,520 cubic yards, at 20·5 cents per cubic yard, amounting to $2,975.39. The totals for the above are 22,721 cubic yards, at a cost of $4,720.41, averaging 20·8 cents per yard. The material was clay, scow measurement, and towed 1½ miles.

The area dredged was: by P. W. D. *No. 202,* 1,390 by 40 feet, and by P. W. D. *No. 204,* 1,392 by 40 feet. The depth of 9 feet was provided at low water.

SNAKE ISLAND.

The Dominion Government fish hatchery for Lake Winnipegosis is on Snake island, Dauphin county. The first fresh-water supply pipe for the hatchery was placed on a pier.

At the time of the year when fresh water was most essential, ice shoves frequently moved the pier and broke the suction pipe. It was also found necessary to have a harbour of refuge for the hatchery boats used for gathering spawn and communicating with Winnipegosis. For these reasons, it was decided to provide a north entrance to the existing lagoon on the island, and deepen the south entrance and the channel through the lagoon. The water in Lake Winnipegosis has been falling annually, calling for dredging not anticipated.

Dredge *No. 210* worked from August 25 to September 17, 1915, removing 5,914 cubic yards, scow measurement, clay, sand, hardpan and boulders. The material was scowed half a mile. The depth of water provided throughout the lagoon was 6½ feet. Further maintenance dredging will be necessary.

The length of cuts total 2,119 lineal feet, averaging about 20 feet in width.

The work cost 30·9 cents per cubic yard. Total expenditure, $1,826.24.

The suction pipe from the hatchery now enters the lagoon near the north entrance.

SPRUCE ISLAND.

Owing to the low stage of water in Lake Winnipegosis fishing boats and tugs could not reach the wharf on Spruce island, Dauphin county.

P.W.D. *No. 210* worked from August 17 to 20, 1915. One cut, 300 feet long by 30 wide, was made at the outer end of the wharf, and another cut, 270 feet long by 25 wide, was made near the shore end of the wharf. The depth of water provided at the first cut was 8 feet and the latter 5 feet.

The total quantity removed was 1,010 cubic yards, scow measurement, soft clay. It was scowed a quarter of a mile. This work cost 28·4 cents per cubic yard. Total expenditure, $286.58.

STURGEON BAY.

Survey.

A survey to establish a navigable route from Dauphin river to Outer Sturgeon island, Lake Winnipeg, was started May 13, and field work was finished July 28, 1915.

This survey was made for the Department of Naval Service, and was to establish a safe route from existing routes in Lake Winnipeg to the new fish hatchery at the mouth of Dauphin river.

Exploration of the route from the Outer Sturgeon island eastwardly was also made. A tug was sailed over the course easterly from the southwesterly point of Outer Sturgeon island, passing north of McBeth point, south of Nut island, tying into the main route between the north and south ends of the lake, at a point about two miles northeast of Egg island.

No surveying was done on this route but, from soundings and observations made, the following information was recorded:—

The water between Outer Sturgeon and Nut island is over 30 feet. Bottom indications show gravel and hard sand within half a mile approximately of McBeth point, which is made up of sand. A depth of 62 feet was found between Nut island and Stone point, the depth averaging from 15 to 30 feet; bottom indications show small boulders and rock. Off the southwesterly point of Nut island, there is a reef which runs in a southerly direction for 700 feet. From Stony point to the main route, the depth is over 30 feet; indications of bottom show gravel, small boulders and hard sand. Within three-quarters of a mile off the southwesterly point of Dowling reef the water was 30 feet.

It is thought a safe sailing route could be established by making a suitable survey, and if necessary placing a few buoys at dangerous points.

The cost of the survey was $6,697.72.

THE FORKS.

For the purpose of deepening the navigable channel for motor boats entering the west channel at the Forks of the Red river, Selkirk county, a cut was made through the bar of river sediment lying across the entrance.

P. W. D. *No. 201* worked from August 13 to 16, 1915, making a cut, 380 feet long, 110 wide, and a depth of 5 feet at low water.

The quantity dredged was 4,643 cubic yards of sand, place measurement. The material was discharged by the suction dredge at a point near the shore. The work cost 5·8 cents per cubic yard, making a total expenditure of $271.08. This cut will fill in by river sediment.

WINNIPEG.

The Rover Avenue wharf was completed during the year. No work has been done on the proposed wharf at Notre Dame avenue.

Construction work on the Rover Avenue wharf commenced April 26, and was suspended October 14. At this time, the water, owing to St. Andrews dam, was too high to permit the lower end of the cross-braces being bolted. It was also desirable to permit the newly made embankments, forming part of the road approaches, time to settle. Work was resumed October 16 and finished October 30.

The wharf is: length over shear or ice deflector at upper end, 380 feet 4 inches, width 30 feet 4 inches; is of pile-bents braced and capped, upon which are laid stringers, and a four-inch floor protected with curb; the front piles are protected with fenders and ice bars, all timber was treated with *carbolineum avenarius*.

There are two incline road approaches on about 5 per cent grades, leading from Rover avenue to the centre of the wharf. These are formed by excavated material from the bank being cast over, forming an embankment on the outside. The width of the roadway is 15 feet, and is covered with broken limestone, gravel and sand, with this is mixed some clay for binder, and the whole rolled with a steam roller.

Expenditure for the fiscal year was $14,729.67.

Dredging.

Work was done at Rover Avenue wharf, and in the navigable channel at the Canadian Pacific railway and National Transcontinental Railway bridges. Further work will be required at Rover Avenue wharf, and the channel at the railway bridges will in time collect sediment.

At the Canadian Pacific Railway bridge, the point at the south entrance was dredged to enable steamers to make the passageway when the bridge was open. Great difficulty from current and wind is experienced at this place.

At the National Transcontinental Railway bridge the operations were conducted to remove obstructions under the bridge. All the work was done by dredge *No. 205* between May 7 and July 9.

The quantity removed was: Rover Avenue wharf, 11,252 cubic yards; Canadian Pacific Railway bridge, 17,363 cubic yards; National Transcontinental railway, 10,923 cubic yards; total, 39,538 yards. Cost, $5,204.73, averaging 13·1 cents per cubic yard.

The material was sand, clay and piles, scow measurements. Length of tow, one mile.

Dimensions of area dredged: Rover Avenue wharf, 897 by 40 feet; Canadian Pacific Railway bridge, 1,042 by 40, and National Transcontinental Railway bridge, 1,014 by 40 feet.

WINNIPEG BEACH.

The government pier at Winnipeg beach, Selkirk county, was built some years ago, chiefly to form a harbour of refuge. It is exposed to drifting sand, and it was necessary to deepen the approach, berth, and turning basin, at the south side of the government pier. Further maintenance and dredging will be required.

P. W. D. *No. 204* worked from June 26 to July 24, 1915, clearing to a depth of 7 feet at low water, a basin about 290 feet long by 120 wide. The approach channel dredged is 850 feet long and 40 wide.

The total quantity removed was 9,297 cubic yards, hard clay, sand and rock. This was scowed a distance of half a mile. The cost of the work averages 21 cents per cubic yard.

Total expenditure, $1,956.38.

WINNIPEGOSIS.

Winnipegosis, Dauphin county, is near the mouth of Mossy river, and the terminus of the Canadian Northern railway. The port is the distributing point for all points on Lake Winnipegosis.

Owing to the falling water in the lake, unforeseen dredging was necessary. The old channel did not reach to deep water and another leg, bending about 45 degrees to the left or north, for a distance of 675 feet, was necessary. Dredging was also required to deepen or maintain the old channel, also at a few points in Mossy river in front of the town. Depth of water provided at low water was 8 feet. Further maintenance dredging will be required.

P. W. D. *No. 201* worked from May 12 to August 7, August 21 to August 24, and September 17 to October 26, 1915. The total length of cuts made was 11,559 lineal feet, width 25 feet. Quantity removed, 27,193 cubic yards, scow measurement, consisting of clay, stones and hardpan. Cost of work 30·3 cents per cubic yard. Total expenditure, $8,223.17.

During dredging operations, it was found that two areas in the Mossy river could not be moved by the dredge. These consist of solid rock, boulders and hardpan. Areas 40 by 50 feet and 60 by 60 feet. The blasted material will be dredged during the ensuing season.

A survey, with soundings, of the channel at the mouth of the river was made to determine the result of the season's dredging operations, and to provide data for next year's dredging. Owing to the unusual low stage of the water in Lake Winnipegosis, the past two years, a great deal of unforeseen dredging has been necessary, hence the necessity of a close survey of the channel and approach of same in the lake. The result of the survey showed the channel to be in a very satisfactory condition.

The interested shipping companies at Winuipegosis are well pleased with the result of the season's work.

SASKATCHEWAN.

BIG STONE RIVER.

An expenditure of $150 was authorized January 26, 1916, for the purpose of blasting and removing a number of large boulders, in the rapids of the Big Stone river, for improvements to navigation. This work was begun February 15, and ended February 28; 30 cubic yards of boulders were blasted and removed from the channel.

Expenditure to date, $143.65.

CUMBERLAND HOUSE.

In dredging at the outlet of the Big Stone river from Cumberland lake a number of large boulders were found in such a position that they interfered with navigation. As these could not be removed by dredging, it was necessary to blast them out.

An allowance of $600 was authorized for this work, under date December 18, 1915, and work was started on January 10 and completed on March 1, on which date all boulders in the channel were removed. A total of 197 cubic yards of boulders was blasted, at a cost of $464.63.

CUMBERLAND LAKE.

The dredging of a channel across the flats, at the easterly end of Cumberland lake to deep water, was recommended to enable steamboats to navigate across the easterly end of the lake, from which point the recently discovered gold fields at Beaver lake can be reached. A survey of this part of the lake was made in July, 1913, and it was decided to dredge a channel 100 feet wide, extending out into the lake approximately 8,600 feet, necessitating the removal of 50,000 cubic yards of clay. In the summer of 1915, a new low-water level was established, necessitating the lowering of the bottom of the channel one foot, which would increase the total cubic yards to be moved to 152,859. Dredging was started on May 26, 1915, after P.W.D. *No. 208* and tug *Le Pas* had undergone the usual annual repairs, and was continued until July 5, when work had to be suspended owing to an unusual high stage of the lake which disabled the dredging plant temporarily. The flood waters having subsided on August 10, dredging was resumed on that date and carried on continuously until October 4, 1915, when operations ceased for the season, and dredge *No. 208* and scows were put into winter quarters, in the new berth on the west shore of Big Stone river, and the tug *Le Pas* was pulled out and blocked up on the opposite shore for overhauling and repairs to be made next spring. The area dredged during the season extends from the westerly side of the channel in the lake, about 1,385 feet distant. One full width cut and part of a second cut were made in this area. Another cut 350 feet long was made about 500 feet below the ferry, to remove boulders which obstructed the channel. The material removed during the season which consisted of clay, mud, hardpan and boulders was towed from one to five miles and amounted to 20,790 cubic yards, scow measurement. The cost of the work was $10,507.99 or 50½ cents per cubic yard. The

high cost is explained by an amount of $1,030 paid out for cordwood, in March, to be used during the season of 1916-17, and by the loss of 32 days, caused by the extreme high water, when the dredge was idle.

The total yardage moved to date is as follows: In 1914-15, 14,306; in 1915-16, 20,790; total, 35,096 cubic yards, scow measurement. It has not been possible up to date to ascertain the expansion factor but it will be in the vicinity of 20 per cent.

CRAVEN DAM.

A small leak, which appeared near the centre of the dam in the early spring, was effectively stopped with clay and gravel; boulders were removed from the southern end of the new dam in order to form a small channel to allow fish to ascend to the reach above the old dam; brushwood was placed along the bank of the river at the southern end of the new dam where considerable erosion and caving in had taken place in recent years; this was necessary in order to prevent further damage to private property. The approach to the dam, on this side of the river, has been washed away; the water flowing past the end of the dam is responsible for the erosion of the river bank at this point.

Expenditure during the fiscal year 1915-16 is $243.45.

NORTH SASKATCHEWAN RIVER SURVEY.

Field work in connection with the survey of the Lower Saskatchewan river was resumed on June 11 last, by the transit, level, and sounding party in charge of assistant P. H. Smith. The party continued the survey from Rabbit point on Cedar lake, where work was stopped in October, 1914, to the western end of the Hudson's Bay Company's tramway at the head of Grand rapids, where a connection was made with the Manitoba hydrographic survey's traverse of the Lower Saskatchewan, made in 1912. It was not considered necessary to carry on our surveys beyond this point, as data furnished by the Manitoba hydrographic survey covering the Grand rapids is complete and sufficient for our purpose.

About 30 miles of chained traverse was run during the season; duplicate or check levels were carried along the traverse as in previous years. Bench-marks were established at convenient points, these being, approximately, one mile apart. A stadia survey of both shores of Cedar lake, from Rabbit point to "The Narrows," and of the river to Cross lake, was made. The stadia work was resumed on the east side of Cross lake and carried to the head of Grand rapids. Two large bays in Cedar lake, and the North and South bays in Cross lake, were left unsurveyed, the chain traverse having been carried across these bays by triangulation. Stadia traverses were also made of all islands in the vicinity of the main traverse. Points on these islands were fixed by triangulation.

Cedar lake, east of Rabbit point, Cross lake, and the intervening stretch of river to Grand rapids, were sounded, ranges in Cedar lake and Cross lake being about 1,000 feet apart, while on the river proper they were run closer together, being about 500 feet apart. Five rapids occur below Cedar lake, viz: Flying post, Demi charge, Cross Lake rapids, Red rock and Grand rapids. All of these were sounded except Grand rapids, which do not require sounding as it is proposed to improve the river at this point by means of locks and dams.

Field work was completed on October 9, and the transit and sounding party paid off on that date. The launch *Lafleur* was used during the season for carrying supplies, correspondence, etc., to the party. It is now in winter quarters at Le Pas, Man.

The calculation of field notes and preparation of plans of last season's surveys were attended to by the office staff during the winter months. Plans of the survey of the entire Saskatchewan river from Edmonton to Lake Winnipeg, drawn to a scale

of 500 feet to an inch, are now completed. Reduced copies of these plans, to a scale of 2,000 feet to an inch, are being prepared for publication. It is expected a number of these reduced plans, of which there will be 59, will be ready for photo-lithographing in the course of the coming summer.

Hydraulic Party.—Surveys of reservoir sites in the mountains, in connection with the investigation for flood control, were continued this past season, by the hydraulic party in charge of Mr. A. M. Kirkpatrick. Three proposed sites were surveyed, and maximum storage capacities at each site obtained, the location, height of dams, with capacities follow:—

Location.	Maximum Height of Dam. Feet.	Capacity. Acre Feet.
Brazeau river	100	44,701
Baptiste river	89	41,202
Glacier lake	74	54,477

Discharge measurements of the following streams were also made at stations occupied in 1913 and 1914: Baptiste river, Brazeau river, Nordegg river and Glacier river.

Owing to the difficulty of travel in the mountains and to the limited supplies carried by pack trains, only a few of the tributaries of the Saskatchewan could be examined for possible dam sites, during the summer months. Favourable locations for dams are known to exist on the South Ram and North Ram rivers, Wapiti river, South branch of the Brazeau river, Brazeau lake and on the Saskatchewan river below Windy Point. A survey of these sites should be made in 1916 in connection with flow measurements. These should be carried on continuously until discharge curves for all of the principal streams in the mountains have been secured.

Gauges.—Daily readings of water gauges were taken at Edmonton, Prince Albert, Le Pas and Chemahawin during the past season. Hourly readings of the gauge at Prince Albert were taken during the flood of July last. This flood is the highest known of which any record has been taken.

PRINCE ALBERT.

This work was started in 1913, for the protection of the river bank along the city park on River street, Prince Albert, extending from the government wharf westward to the Canadian Northern Railway bridge, a distance of 2,273 feet. Pile driving started May 19, 1915, on the uncompleted section, a distance of 586 feet, and was finished July 5, during which time 835 piles were driven. The capping, bracing of the piles and placing of the top and lower wales has been completed. Brush has been laid inside and outside the work and, during the winter, rock has been hauled and placed inside and outside the structure, as called for in the plan. The structure is now completed and will be of great benefit to the water front.

Expenditure to March 31, $8,974.33.

SASKATCHEWAN RIVER.

Large boulders obstructing the navigable channel of the Saskatchewan river, between the Canadian Northern Railway bridge at Prince Albert and the saw-mill of the Prince Albert Lumber Company, located some two miles below the bridge, were removed.

Owing to the high stage of the water during the summer months, work was not begun until October 18, the derrick scow and steam pile-driver scow, being no longer required for bank protection, were made use of for boulder removal. A total of 88

cubic yards of boulders were removed to December 31, on which date work was discontinued, the river being frozen over. The boulders were piled on the shore at convenient points and were used during the winter for the bank protection work.

Expenditure to March 31, $476.74.

ALBERTA.

GROUARD.

The dredge operating under this appropriation was moved from Lesser Slave river to the vicinity of Grouard, at the west end of Lesser Slave lake, in September, 1911. Work was carried on during the remainder of that season, and has been carried on each successive season up to the 17th of August last, when work was stopped, owing to the completion of the channel. The dredge was then dismantled, all the gear being stored at Grouard; the dredge hull is in shallow water at Grouard, and is of very little use, as its timbers have become rotten during the past several years.

The dredge used there was of the orange-peel type, with a 21 cubic foot bucket. No tugs or scows have been employed on the work, all the material being sidecast. All of the excavation has been in gumbo or very stiff clay. Considerable trouble has been experienced, however, with two sandbars near the mouth of the Buffalo river. At this point the channel is exposed to the wave action of the lake as well as the current from the river. Consequently the material here has refilled a good deal in the excavation.

The object of this work was to provide a navigable waterway, from deep water in the Lesser Slave lake to the town of Grouard. The width of channel, as already excavated, varies from 35 to 40 feet at low-water level. The depth is approximately 4½ feet below low water. This channel, as excavated, extends from deep water in the lake to Grouard.

When this work was first laid out, it was proposed to make a channel, having a bottom width of 50 feet on tangent, and 60 feet on curves, with a depth of 4½ feet at low water. There has already been excavated a channel, having a width of 35 to 40 feet, and a depth of 4½ feet at low water. All material was sidecast. A small turning basin, having a width of 46 feet and a length of 400 feet, has been excavated at Grouard, at the terminus of this work. Since the coming of the railroad into this country, navigation has not played the important part it did in past years, and the channel having the width and depth already completed, is believed to be sufficient for present and future needs.

The nature of material removed during the past season has been gumbo or stiff clay. Some boulders were also encountered in the cuts. The quantity of material removed during the past fiscal year, place measurement, was 12,936 cubic yards.

Work was done by the departmental dredge *No. 206*. The total expenditure was $3,201.03. This included all repairs, in addition to operating expenses. On this basin, the cost, per cubic yard, amounts to 24·9 cents. Work started on June 12 last, and the work having been completed at Grouard, dredging was stopped on August 17 last, and the plant laid up.

Work was also done on a channel to the temporary landing place, where boats landed passengers and freight when the water was too high to permit of them proceeding up to the town. This work was done before the regular channel was excavated past this point. In addition to this work, sand and gravel bars had been excavated several times. Further than this, several weeks were spent in dredging a channel through the sandbar west of the government bridge off Stoney point, to permit of boats approaching the landing farther up the Buffalo river. About 450 feet of temporary channel was dug east of the government bridge, to allow boats to approach the banks close to the town.

STURGEON RIVER.

Improvements carried out during the past fiscal year consisted in completing a channel through a sandbar in Lac Ste. Anne, near the point where the same drains into Sturgeon river. This work was partially done during the previous fiscal year, but owing to the rise of water in the lake it could not be completed at that time. Further than this, there was considerable clearing out of this river east of the lake, in the nature of growth of weeds, etc., which retarded the flow of water and at a point about three miles east of the lake, a number of rocks were cleared out of the channel.

The object in doing this work was to increase the flow of water out of Lac Ste. Anne, in order that certain haylands bordering on the lake and river may be made available for use. The above work was commenced May 11 and was completed 26th June, when all the work was done that could be advantageously accomplished.

Out of the total appropriation for the work, there was expended, during the past fiscal year, the sum of $1,533.17.

BRITISH COLUMBIA.

AINSWORTH.

(This work is described in the annual report for 1915.)

Authority was granted during the year 1915-16 to complete the wharf, under construction by this department, at Ainsworth. The work done consisted of the removal of a rock reef to accommodate deeper draught vessels, removal of extra rock at lower end of wharf to provide turning place for teams, the completion of the approach and construction of movable freight shed 12 by 24 feet. The total expenditure involved amounted to $3,055.59.

ARROWHEAD.

To relieve conditions caused by floe-ice piling up around the Arrowhead wharf, it was decided to clean out the back channel of the Columbia river at this point, and by dredging, divert enough of the current to carry this ice to the main lake instead of the northeast arm.

Two cuts were made during the past season; on April 20, 1915, the departmental dredge *Sheldrake* commenced work in the upper cut at the head of the back channel, and closed down owing to high water June 12, 1915. A cut, 1,875 feet long and 75 feet wide, was dredged, with a minimum depth of 7 feet at low-water stage, and 15,350 yards of material, sand, gravel, brush and snags were removed; the second or lower cut at the foot of the back channel was commenced September 20, and completed October 26, 1915. The object of this cut was to enable the dredge to get to the head of the channel and insure a means of transporting supplies, but owing to scarcity of water and storm conditions, it was found necessary to discontinue work. A cut, 1,500 feet long and 75 feet wide, was made, with a minimum depth of 6 feet at low water, and 14,450 cubic yards material, chiefly sand, were removed; all this material was overcast.

Total cost of work for both cuts, entailing the removal of 29,800 cubic yards of material, was $4,842.60.

BANFIELD.

Banfield is a cable and life-saving station, situated on Barclay sound, about 100 miles northwest of Victoria.

The wharf here is supported on reinforced concrete columns, and the furnishing of sufficient bracing and fenders, to adequately protect the above columns from shock, was necessary. This work was carried out between September 7 and September 25, 1915, at a total cost of $1,099.95. Twenty-four creosoted piles were included in the above repairs.

BLUBBER BAY.

Blubber Bay is a small town on the north end of Texada island, Comox-Atlin district, with a population of about one hundred, and a contiguous farm population of about one hundred or two hundred in all. A large limekiln is in operation, belonging to the Pacific Lime Company, with an output, in 1912, of 88,000 barrels of lime, valued at $88,000. The company's present intention is to add another unit to their plant and increase the output 50 per cent.

The work consisted of dredging in front of the company's wharf, with an average length of 500 feet, and an average width of 30. The dredging was done to 15 feet below L.W.O.S.T., at the inner end, ranging to 25 feet at the outer end of wharf, to accommodate boats using the wharf. The total quantity dredged was 6,270 cubic yards, place measurement, or 6,540 yards, scow measurement, as reported by dredge, the materials being sand, clay, gravel and silt. This work was performed by the dredge *Ajax,* between September 10 and 14, 1915. This dredging is expected to be permanent.

BURTON.

A movable freight shed, 12 by 16 feet, was constructed on this wharf, at a cost of $131.97.

CAMPBELL RIVER.

Campbell River is an important logging, fishing and tourist centre, having a post office and government telegraph, and is situated on the Strait of Georgia, 175 miles northwest of Victoria. It is also the main point of entrance to Strathcona park. The Canadian Pacific Railway and Union Steamship Company's boats make regular calls.

Owing to the destructive action of teredo, and as the result of a heavy concussion by the Union Steamship Company's boat loosening the piling, extensive repairs to the wharf and approach were made necessary, and included 4,617 lineal feet of creosoted piling in wharf and approach to replace the worm-eaten piling, renewal of 25 fender piles and portions of guard-rail and decking, 4 cast-iron mooring cleats, new float, 39 feet 6 inches by 17 feet, and gangway, 36 feet by 4 feet, the existing fixed slip was also replaced by a movable one having an increased length of about 10 feet. The work was commenced May 10 and completed June 5, 1915, and was carried out, by contract, by Messrs. James MacDonald and Company, for the sum of $5,050. Subsequent minor repairs brought the total expenditure to $5,102.33.

CAPILANO.

The Capilano is a mountain stream, having its source in the Howe Sound mountains. It flows in a southwesterly direction, and enters the First Narrows of Burrard inlet through three distinct branches. Owing to the high elevation of its source and the precipitous nature of its descent down the mountains, the freshets are sudden and destructive.

The work that has already been done consists of three loose rock and riprap submerged dykes, which confine the main body of the water to the desired channel, but are built low enough to allow of flood waters being checked and carried off farther downstream. The work performed this year was the removing of driftwood, which had collected on the spillways, and the replacing of stones, which had been washed out in consequence of the driftwood deflecting the current from the spillways. This work was done between September 7 and 22, 1915. The total cost of repairs was $297.

CEDAR CREEK.

Cedar Creek, on the west side of Kootenay lake, one mile north of Ainsworth, is the tramway terminus for a number of mines operated by the Consolidated Mining and Smelting Company and the Silver Hoard Mining Company.

These companies have extensive ore bunkers at Cedar Creek, and owing to the fact that material from the rock cut on the Provincial Government road slipped into the channel, it was impossible for barges to be berthed alongside the ore pockets.

On October 28, 1915, the departmental dredge *Bittern* began the removal of this material, and completed the work on November 2. The material moved, gravel, clay and rocks, amounted to 400 cubic yards, at a cost of $314.04.

This work was necessitated by the construction of a road through rock, above the bunkers. The channel is otherwise permanent.

CHILLIWACK.—MINTO LANDING.

Extension to wharf; a new slip was built. Work was done October 21 to 23, 1915.

CLAYOQUOT.

Clayoquot is a post office and steamboat landing, on Stubbs island in Clayoquot sound, 54 miles from Alberni and 151 miles from Victoria, from whence there is a weekly steamboat service *via* the west coast route. The population in the vicinity consists of about 325 whites and 350 Indians. Industries are chiefly mining and logging, and there is a government life-boat station adjacent, also mineral recording office, post office and government telegraph.

The Provincial Government wharf having reached such a state of decay as to necessitate its removal, arrangements were made for its transfer to the Dominion Government. It was reconstructed as follows: Wharf, 100 by 40 feet, approach, 325 by 14 feet, 3-foot 3-inch handrail along approach, float, 30 by 20 feet, gangway, 36 by 4 feet, and freight shed, 12 by 20 feet; 32 creosoted piles were used in the wharf-head.

The work of reconstruction was carried out by day labour and was commenced July 5, but was not finally completed until December 31, 1915, considerable delay being caused by bad weather. The total amount expended was $4,156.35.

COLUMBIA RIVER.—ABOVE GOLDEN.

Owing to the construction of the Kootenay Central railway, and the fact that logging operations were at a standstill, there was practically no navigation on the Upper Columbia river during the season 1915-16. Consequently the snagboat *Muskrat* did not operate, but was tied up at Golden in charge of a watchman.

AT REVELSTOKE.

During the winter 1914-15, a section of the bank protection mattress, approximately 125 feet long and 20 feet wide, below the Revelstoke wharf, was undermined and slipped, leaving a portion of the bank exposed to erosion by high water.

A bad break in a storm sewer, paralleling the river bank above Revelstoke wharf, washed out the portion of the river bank immediately adjoining the protection cribwork at that place. As, during high water, the river was liable to cut in behind this crib at the washout, it was deemed advisable to extend the crib a distance of 92 feet.

Authority for the two above-mentioned work was received, and the works were completed by March 31, 1916, at a cost of $1,240.56.

Narrows.

Owing to the action of the current on a high gravel bank, approximately 1,900 feet long and 25 feet high, on the east side of the Columbia river below Burton, bars were formed in the slack water at the head of Lower Arrow lake, necessitating considerable dredging. As no permanent improvement could be effected by this means, authority was granted to expend the sum of $9,000 to protect this bank from the eroding action of the current. Work commenced December 1, 1915, and was completed January 31, 1916, at a cost of $7,599.37.

The work consists of a brush and rock mattress, the upper portion 325 feet long and averaging 20 feet wide, and the lower portion 975 feet long and averaging 65 feet wide. This mattress forms part of the scheme for bank protection already outlined.

Robert's Shoal.

Launch owners experienced difficulty, due to large rocks and boulders, in navigating the channel on the north side of Robert's shoal, about two miles east of Nelson, on west arm of Kootenay lake. These obstructions were removed at a cost of $79.

Dredging.

The portion of the Columbia river between the Upper and Lower Arrow lake is known as the Narrows and is about 20 miles in length. During the season 1915-16, the departmental dredge *Sheldrake* has been employed the greater portion of the time in dredging the various bars and shallows to keep year-round navigation in the Narrows.

COURTENAY RIVER.

The Courtenay river runs in a southeasterly direction into Comox harbour. Courtenay, near its mouth, is the principal town of the Comox valley, which is about 6 miles wide and 40 miles long, and is adapted to farming, dairying, fruit growing and poultry raising. There are two banks, two hotels, saw-mill, creamery and good stores and the E. & N. Railway has its northerly terminus here. The river is navigable to Courtenay for small boats when the tide is on. The population of the valley is about 4,000, and of Courtenay, 750.

Erosion of the left bank of the Courtenay river having taken place opposite the present main channel and below the existing timbering, owing to the change of the original course of the river channel, the lower part of the town was rendered liable to flood. To prevent this, 617 feet of timber protection was constructed by day labour. This work was commenced June 25 and completed July 17, 1915, the total expenditure being $1,971.99.

Dredging.

The dredging carried out had for its object the improving and straightening of the boat channel across the tidal flats, between Comox harbour and the mouth of the Courtenay river, to enable small steamers of about one hundred tons burden to reach Courtenay at about half tide, and involved the removal of 111,013 cubic yards of

material, place measurement. A channel, 2,806 feet long and 100 feet wide, having a depth of about 8 feet at low tide, was dredged during 1914, and the departmental hydraulic dredge *King Edward* proceeded to Courtenay to continue this channel towards the river mouth, and worked from July 29 until September 27, 1915, removing 60,000 cubic yards of silt and gravel, which latterly became of increasing hardness and was finally the cause of the removal of the dredge for repairs, owing to the breakage of the pump.

Length of channel dredged, 2,070 feet, width 100 to 110 feet, average depth of cut 7·5 feet, and average depth of water obtained 7·66 feet at low water. Owing to the silting up of the channel dredged in 1914, it was not possible to begin at the point where the dredge had previously ceased work and it was necessary to commence about 975 feet lower down the channel in order to provide the necessary flotation, of about 8 feet at low water, for the dredge. For this reason, there should be no interference with navigation due to silting up in the channel dredged for some considerable time.

The cost of the above work was $10,986.19, being at the rate of 18·3 cents per cubic yard.

Further improvement is required immediately below the river mouth, and the removal of boulders between the river mouth and Courtenay.

DIGNAN'S BAY, GABRIOLA ISLAND.

Dignan's bay is situated at the south end of Gabriola island in the gulf of Georgia, and is about 12 miles from Nanaimo. Gabriola island is a farming community and has telephone connection with Vancouver. There are mails four times a week. Population in the vicinity, about 50.

The work, which was done by day labour, consisted of doubling the existing float in size, making it 50 by 40 feet, instead of 25 by 40 feet as before. Construction was commenced June 24 and was completed July 20, 1915. The total expenditure was $390.02.

EBURNE.

Eburne is situated on the north arm of the Fraser river about 9½ miles west of New Westminster, and 5 miles south of Vancouver. There are several lumber mills and canneries situated here. The British Columbia Electric Railway's New Westminster-Vancouver interurban line passes through Eburne, and it is a junction for Steveston.

Authority was granted on April 27, 1915, to proceed with the construction of a wharf at this place, by day labour, and on May 21, 1915, work was started and completed on June 30, 1915. The wharf is of a pile-bent and timber-decking construction, 100 by 64 feet, with a pile-bent approach, 90 by 20 feet, and a float, 50 by 10 feet, let into the west corner, a gangway, 6 by 28 feet, leading on to the float from the wharf. A shed, 20 by 40 feet, is built on the main wharf.

The total expenditure was $2,786.30.

FRASER RIVER.

The work being undertaken at the mouth of the north arm of the Fraser river has for its object the making and maintaining of a navigable channel through the sandheads at the mouth. The complete scheme embraces the dredging of a channel, 22,000 feet long, 300 feet wide and 10 feet at L.W.O.S.T., and the construction of a bulkhead and mattress jetty, 22,300 feet long, paralleling the dredged channel on the south side. The above work necessitates the removal of some 3,000,000 cubic yards of sand, and the emplacement in the jetty of the following quantities of materials: 5,502 fir piles, 640,465 feet b.m. rough lumber, 126,219 cubic yards mattressing, 24,083

cubic yards loose brush, and 186,820 tons rock. Of this the following materials were placed in the last fiscal year, 1914-15: 5,062 fir piles, 598,000 feet b.m. rough lumber, 100,500 cubic yards mattressing, 20,600 yards loose brush, and 106,310 tons rock.

During this fiscal year, the jetty construction has been completed when the following materials were placed: 440 fir piles, 42,465 feet b.m. rough lumber, 25,719 cubic yards mattressing, 3,483 yards loose brush, and 80,510 tons rock.

The work is being performed, under contract, by the Pacific Dredging Company, of Vancouver, B.C. During this fiscal year, 1,639,633 cubic yards of material have been removed from the cut, making a total of 2,280,506 yards, removed to March 31, 1916, or 76 per cent of the total material to be dredged.

The total expenditure is $279,657.95 for this fiscal year.

Sandheads.

The Fraser river sandheads extend from Steveston west about 5½ miles to deep water in the gulf of Georgia. These sandheads are bars at low water, except where the channel passes through them. Several years ago, this channel showed a tendency to cut a straight course through the bar to the north of the old channel, and the natural tendency of the river, materially assisted by dredging, has resulted in the production of the main ship channel at this place. This channel is maintaining a minimum depth of 17 feet, and it is to maintain or increase this depth and straighten out the channel that the work is being done at this place.

The departmental dredges *No. 303* and *King Edward* have been employed during this year, maintaining and improving the channel paralleling the jetty now being constructed over the sandheads. The following tables show the work done by each dredge at this point:—

Dredge No. 303.

Intervals of Dredge.	Cubic yards, hopper m's'm't.	Material.
September 1 to 13, 1915	53,600	Sand and clay.
September 29 to October 8, 1915	61,600	" "
December 3 to 24, 1915	105,600	" "
January 5 to 7, 1916	56,000	" "
February 22 to March 31, 1916	192,800	" "
	469,600	

Dredge King Edward.

October 12 to November 23, 1915	20,915	Sand and clay.

This shows a total of 490,515 cubic yards removed from the channel during this fiscal year.

On the whole, the dredged channel appears to be maintaining the depth dredged, alternate scouring and filling in of the bottom taking place at different stages of the height of water in the Fraser river.

The Marine and Naval Departments are kept informed of any change in the channel and the lights and buoys are attended to from this office.

Woodwards Landing.

Woodwards Landing, New Westminster district, is a Provincial Government ferry landing on the north bank of the river about 12 miles below New Westminster. This ferry plys between Woodwards and Ladner, doing a large business in the transporting of farmers and their stock and produce to the markets in Vancouver and New Westminster. The water at the landing became too shoal for the ferry boat to land at low water, and authority was granted to have the dredge *King Edward* remove the shoal, which she did on June 17, 1915, removing 600 yards of sand in front of and under the landing float.

North Arm—South Branch.

The south branch is that portion of the north arm running from Eburne south and southwest of the gulf of Georgia. The object of the work is to provide a channel with a depth of 10 feet at L.W.O.S.T., connecting with the channel dredged by the department, in front of Eburne, in 1911.

The whole work consists of a channel 7,500 feet long and 150 wide, the total material to be removed being 270,800 cubic yards of sand and silt, in place.

Authority being granted for this work the dredge *King Edward* started operations on January 3, 1916, and continued to March 20, the work being stopped between January 10 and February 14, owing to ice on the river. During the period of dredging, 101,790 cubic yards were removed, the length of cut completed being 3,700 feet, leaving 169,000 yards and 3,800 feet still to be completed. As the work consists of two sections, it may be said that the work performed has been done in the long cut nearest Eburne, and there requires to be dredged, of this cut, a distance of 2,000 feet, to connect with channel in north arm at Eburne. It is expected that this work will be permanent.

GAMBIER ISLAND.

Gambier island is situated in Howe Sound, about 20 miles northwest of Vancouver. A landing was built which consists of a float, 16 by 32 feet, of 5 cedar logs, 6 cross-timbers 8 by 10 inches, fastened to logs by drift-bolts, and flooring of 2-inch by 12-inch plank spiked to cross-ties, with 6 by 6-inch guard rail all round. This float is anchored by a 2-ton rock connected with chain. An approach of cedar logs, 6 feet wide and 208 feet long, with 6 by 8-inch cross-ties and 2 by 12-inch planking, leads from the shore to he float.

This work was performed, under agreement, by James Brooks, for a lump sum of $200.

Work was commenced on July 18, and completed on August 3, 1915.

GLEN VALLEY.

Glen valley, New Westminster district, is a settlement on the south bank of the Fraser river, about 22 miles above New Westminster. A government wharf is situated at this point for the shipment of farm produce and supplies. A large sandbar had formed to the east of the wharf, gradually extending west along the front, making it difficult for river steamers to land at low water. It was the removal of this bar that was done by the departmental dredge *King Edward,* between the dates of April 6 and 15, 1915.

The cut has an average length of 450 feet, and an average width of 100. The total material removed was 22,118 cubic yards, sand and silt, in place. The dredging was done to 8 feet below L.W.O.S.T., and it is expected that no further dredging will be required for some time to come.

GOOSE BAY.

Goose bay is on Observatory inlet, Comox-Atlin county, near the entrance of Hastings and Alice arms. In 1912, a pile-wharf, 40 by 60, was constructed by the department. By use and the action of sea lice, the sway bracing and several fender-piles had become so eaten away as to require repairs. Work of repair consisted of renewing the sway bracing and the driving of eight new fender-piles, which was done at an expenditure of $1,495.20.

GOWER POINT.

Gower point is situated about 20 miles northwest of Vancouver, on the western side of Howe sound. A government float was built there in 1913-14, and this float was removed, during the winter of 1914-15, to a safe anchorage for security against storms which prevail in that district. An expenditure of $137.43 was made in replacing the float and making a few necessary repairs.

Work was commenced on May 7 and completed on May 10, 1915.

GRAHAM'S LANDING.

During the season 1914-15, the departmental dredge *Sheldrake* was employed at various times in improving the crossing at Graham's Landing. To March 31, 1915, a channel, 2,977 feet long and 150 feet wide, with a minimum depth of 8 feet at low water, was excavated and 79,400 cubic yards material removed.

Operations were continued at this point from April 1 to April 19, 1915, and the cut completed. During this period, 9,400 cubic yards material were removed, an admixture of sand and clay, chiefly sand, and a cut 1,150 feet long and 75 feet wide, made with a minimum depth of 8 feet at low water, at a cost of $968.53. All material overcast.

The obstructions and the duration of the improvement is expected to be, approximately, six years, when silting will probably necessitate further dredging.

HALCYON.

Halcyon, on the east side of the Upper Arrow lake, about 12 miles south of Arrowhead, is a large sanitarium and summer resort. It is also the transfer point for settlers and lumbermen in the vicinity, and is a port of call for all steamers operating on this lake, both on the up and down trip.

Work on the construction of a wharf was started August 2 and was completed August 26, 1915, at a cost of $2,180.31.

The wharf is a floating structure, 20 feet by 91 feet, with a floating approach 12 by 166 feet. The main float is held in place by pile dolphins and the floating approach by a series of single piles. As this wharf replaced an old float previously used at this point, it was only necessary to construct 27 feet of new approach, as by the addition of some new float-timber the old approach was rendered serviceable. A shed, 8 feet by 16 feet, was constructed on this wharf.

HARDY BAY.

Hardy bay is situated at the northern end of Vancouver island, about 250 miles northwest of Victoria. There is a settlement and government wharf and lumber mill at Port Hardy, which is the centre of the neighbouring community.

Almost the whole of the piling in the wharfhead having suffered badly from teredo attack, it was necessary to practically rebuild this portion of the wharf, 100 by 40 feet. The work was carried out by Messrs. James MacDonald and Company, under contract, for the sum of $1,900, and was commenced August 24 and completed September 4, 1915.

KAMLOOPS.

A shelter shed was erected on the Kamloops wharf, by day labour. Work commenced August 2 and terminated August 6, and the total cost of structure, including painting, amounted to $242.03.

KELOWNA.

The *Heron* was moved from Summerland to Kelowna, where she was engaged in deepening the slip at the Canadian Pacific Railway Company's transfer wharf, until March 27. The quantity of material handled was 1,407 cubic yards of sand.

KINCOLITH.

Kincolith is an Indian village, at the mouth of the Naas river, where it empties into Observatory inlet. The wharf had been damaged by storms in such a manner that the renewal of the sway-bracing, the driving of a few fender-piles, and some additional brace-piles were required. Repairs were immediately put in hand and completed, at an expenditure of $600.

LANGLEY.

Langley, twenty new fender and bearing-piles in slip. Replanking part of wharf and slip.

Work was done September 1 to 14, 1915.

MCADAMS.

Renewing six fender-piles, planks, guard-rail, and hand-rail. Work was done October 21 to 23, 1915.

MCDONALD'S.

McDonald's, population, approximately 200, is a fruit-growing settlement on the west arm of Kootenay lake, about 7 miles east of Nelson.

Construction of this wharf was commenced July 10 and was completed August 10, 1915, at a total cost of $4,565.96. The wharf is a floating structure, 40 by 80 feet, with a floating approach, 16 by 256 feet. The main float is held in place by pile dolphins, and the approach by single piles, spaced 16 feet centre to centre. A shed, 12 by 16 feet, was constructed on the wharf.

MAPLES.

Maples is a small farming community at the south end of Gabriola island, about 8 miles distant from Nanaimo. A triangular addition, 20 by 13 by 23 feet, was constructed at the intersection of the approach and the wharf, to enable settlers to turn teams when leaving the wharf. This was carried out, by day labour, between July 13 and July 20, 1915. The total cost of the work was $185.30.

MASSETT (NEW).

Massett is situated on Massett inlet, Graham island, the most northerly of the Queen Charlotte islands. These islands are situated about one hundred miles off the coast of British Columbia, in the Pacific ocean. The wharf at this point had become, through the action of teredos, damaged in such a manner as to require the renewal of a few fender-piles, together with some additional sway bracing. Repairs were put in hand and completed at an expenditure of $999.47.

MASSETT (OLD).

Massett is one of the oldest Indian villages in the Queen Charlotte islands, being located on Massett inlet near the north coast of Graham island. The wharf at this point had become so damaged by the action of teredos as to require re-building, and was renewed in creosoted material, which will render it immune from the attack of the teredos for a long period of time, probably fifteen years. The total expenditure necessary to complete the work was $4,689.41.

MATSQUI.

Renewing thirteen fender and bearing piles and repairing damaged slip. Work was done November 15 to November 19, 1915.

NAAS RIVER.

From April 10 until September 30, 1915, the snag boat *Naas* worked every day possible on the river, dragging for snags.

During the season there were no events worthy of special notice, beyond the fact that the season was short and one of extremely heavy tides and storms, which rendered the number of snags coming down the river much smaller than usual. The previous year shows one hundred snags secured and destroyed, while this year there were only forty-three.

NANAIMO HARBOUR.

Nanaimo is on the eastern coast of Vancouver island. There are large wharfs in the harbour, used for shipping coal, the main export of the port, and many steamers call for bunker coal. Two channels connect the harbour entrance with the coal wharfs. They are on the north and south sides of the middle bank, in the centre of the harbour, respectively.

During 1914, rock was removed by the departmental plant from the north channel and from Nicol rock. The area fronting the loading wharfs and the south channel was improved by the removal of gravel and sand, giving a width in the latter of 400 to 500 feet between 30-foot contours. It may be stated that steamers of large size now go to Nanaimo harbour for coal.

The work carried out during the past year has been the further crushing of rock by the Lobnitz rock breaker No. 2, and its removal by the departmental dredge *Ajax*. Blasting in the harbour is not desirable on account of the colliery workings under the harbour bottom. The work of the Lobnitz rock breaker has been confined, as before, to the large area of rock fronting the Western Fuel Company's ballast and loading wharfs, known as Nicol rock, and on the three large areas of rock in the north channel, where the object in view is a minimum width of 400 feet, dredged to 30 feet at low water, the same depth being required at Nicol rock. At the commencement of the above work in 1914, the estimated quantities of rock to be removed to the above depths were as follows:—

	Cubic yards, place measurement.
Nicol rock	22,259
Block H	3,942
Block I	799
Block J	16,160
Total	43,160

The Lobnitz rock breaker was engaged on this work the whole of the year, and the departmental dredge *Ajax* worked on the following dates, in order to remove the material broken:—August 11-September 7, and September 15 to 23, 1915, and February 15 to March 8, 1916.

During the year the following amounts of rock, hard sandstone, have been removed:—

	Cubic yards, scow measurement.
Nicol rock	8,180
Block H (north end of middle bank)	2,050
Block I (south end of Satellite reef)	550
Block J (south end of Satellite reef)	320
	11,100

The estimated quantity of rock broken during the above period was 14,458 cubic yards, place measurement.

Block I is now practically completed to grade. 2,800 cubic yards of boulders, hardpan, and gravel, overlying rock, were cleared from Block J, and the breaking of rock commenced. 1,000 cubic yards of silt and coal were removed adjoining the Western Fuel Company's loading chutes, giving 30 feet at low water and a mooring basin, 300 by 100 feet, was dredged to 20 feet below low water, fronting the Vancouver Nanaimo Coal Company's wharf, 7,200 cubic yards of sand and silt being removed, together with 1,650 cubic yards of hardpan and mud from Nicol rock, these being scow measurement quantities.

The total quantity of material dealt with by the *Ajax* was as follows:—

	Cubic yards, scow measurement.
Rock	11,100
Gravel, hardpan, silt and sand	12,650
	23,750

It is proposed to continue the removal of rock, at the above points, during the coming year.

NEWPORT.

Newport is situated at the head of Howe Sound, about 40 miles from Vancouver, and the terminus of the Pacific Great Eastern railway. The wharf was rebuilt in the year 1913-14. The expenditure of $265.62 was incurred in constructing steps along the side of the wharf, to serve as a landing for small boats, and a handrail along each side of the approach, the work being done by day labour.

Work was commenced on July 2, and completed on July 10.

NEW WESTMINSTER.

The work here consists of repairs to the departmental wharf at New Westminster. This wharf was in very bad repair and in a dangerous condition on the inner end, necessitating the strengthening of caps and the renewal of stringers, joists, and decking on approach and 45 feet of wharf. Several planks and joists were replaced along the remainder of the wharf. An addition, 80 by 120 feet, was built to allow the snag boat *Samson* to dock on the up-river side. This addition consists of piles, at 10 feet centres, capped with 10 by 12-inch caps, with a decking between planked with 3 by

12-inch planking. A slip, 10 by 30 feet, is provided at the outer end, and the slip on the up-river side enlarged to 20 by 30 feet. The tide gauge and house were moved nearer the front of the wharf, on account of shoaling where it was situated before.

The work was performed between July 5 and August 31, and between September 27 and October 2, 1915, by day labour, with the departmental plant. The total expenditure was $3,492.69.

Dredging.

The only dredging done in this vicinity during this fiscal year was performed for the corporation of the city of New Westminster. The work consisted of the dredging of sand from Annieville bar, in the Fraser river, and the depositing of the material behind the bulkhead of the new city market wharf, at an agreed price of 5¼ cents per yard, hopper measurement.

In the intervals between July 15 and 30, August 24 and 31, October 12 and November 12, 1915, 228,000 cubic yards of sand were placed behind the bulkhead by the dredge *No. 303*.

NICOMEN SLOUGH.

This expenditure was made for the placing of a fence around No. 2 dam, Nicomen slough, to prevent damage being done to the dam by cattle straying thereon. The fencing consists of 330 feet of Ideal fencing, and 1,650 feet of Frost fencing. The total expenditure was $287.50.

NICOMEN.

Nicomen island, New Westminster district, is situated on the Fraser river about 36 miles east of the city of New Westminster. The island has an area of about 6,750 acres of valuable farm land. The main channel of the river is very rapidly eroding the southern bank of the island, by reason of the extensive bar that has formed on the opposite bank, which diverts the strong current of the river towards the island.

This dredging is part of a scheme to divert the water from the Nicomen island bank and lead it through the bar on the southern bank of the river. In order to accomplish this diversion, a channel, some 5,500 feet long and 150 wide, is being dredged. Part of this channel, to 8 feet at L.W.O.S.T., was dredged by the departmental dredge *King Edward* during the year 1914-15, but owing to the removal of the balance proving too difficult for the *King Edward,* an agreement was entered into with Messrs. Moore & Pethick, of Victoria, to remove the material to low-water level, amounting to 245,000 cubic yards, sand and gravel, with teams, donkey engines and scrapers, the price being 15 cents per cubic yard.

During this year, there were removed 206,917 yards, leaving a balance of 38,083 yet to be removed. The length of cut is approximately 2,400 feet, but the bottom width is less than the 150 feet intended, owing to the system of excavation. Estimates in favour of the contractors, to the gross amount of $31,037.55, were forwarded to Ottawa for payment.

OKANAGAN RIVER.

Work on this service began on May 15, and consisted of repairs to existing and construction of new bank protection work, and in removing material deposited on the banks by departmental dredge *Heron*.

About 1,200 feet north of Beaver creek, double piling, with brush and gravel back-filling was constructed for a distance of 450 feet. At the bend of river, opposite Beaver creek, repairs were made for a distance of 150 feet. Protection work No. 2, on east bank, was rebrushed and gravel back-filled for a distance of 267 feet; and from this point to Fairview bridge, a distance of 349 feet, double piling, with brush and gravel back-fill, was constructed, and a flume, 23 feet long, laid near Fairview bridge, to carry off surface water from roadway south of Fairview bridge. On east bank of river, protection work No. 3 was rebrushed and back-filled for a distance of 330 feet.

At the mouth of Beaver creek, a dam was constructed to overcome trouble experienced in previous years through the flood waters of the creek silting up and blocking the channel of Okanagan river, and scouring the opposite bank. The dam consists of of single piling, 4-foot centres, with a backing of 3- by 12-inch plank and 9- by 12-inch caps and girts, drift-bolted together; the length of dam being 145 feet, all brushed and back-filled; a fish ladder being inserted near centre of dam. Adjoining the dam, 35 extra piles were driven and bolted to old protection work No. 1.

The work during the year lay mostly between the Kettle Valley Railway and the Fairview bridges; the channel being considerably straightened, and the protection work placed at points necessary to prevent erosion by high water and wash from power boats.

Work on this service terminated on the 15th November, the total expenditure being $4,994.83.

As the result of dredging and protection work on the Okanagan river, done during the last several years, power boats are now running between the Upper and Lower Okanagan lakes, a regular service being maintained from May 1 to November 30, between Okanagan Falls and Penticton.

Dredging.

The departmental dredge *Heron* has been employed on the Okanagan lake and river system since the spring of 1909, in opening up a navigable channel between the Upper and Lower Okanagan lakes, by dredging out a channel in the Okanagan river, on a uniform grade line, to a depth of not less than 4 feet at low water and having a width of not less than 40 feet. This has already been partially effected, so that during last season an uninterrupted daily boat service between the two lakes was maintained, and as far south as Okanagan Falls, at the lower end of Lower Okanagan lake.

In addition to the regular work on the Okanagan river, dredging at various wharfs on the upper lake was done, and for several years during which the *Heron* was a combination dredge and pile driver she was employed in protection work along the river banks and in repairing and extending wharfs at various landings on the upper lake.

During the past year, the general work was between the upper lake to more than half-way down the Okanagan river, and at the Canadian Pacific Railway wharfs at Summerland, Kelowna and Okanagan Landing.

OKANAGAN LANDING.

The dredge was moved from Kelowna to Okanagan Landing and engaged in deepening the channel alongside the Canadian Pacific Railway Company's general wharf, from March 27 to 31. During this time, 474 cubic yards of mud and clay was overcast, bucket measurement, the place measurement being the same; leaving to be completed the balance of 2,084 cubic yards, place measurement, which was being proceeded with into next fiscal year.

PITT LAKE FLOAT.

Driving and capping boom piles and raising approach to float. Work was done September 20 to 24, 1915.

PORT ALBERNI.

Port Alberni is an important point on the west coast of Vancouver island, about 135 miles from Victoria. It is situated on a good deep harbour at the head of the Alberni canal, a natural inlet which communicates directly with the open Pacific. The city is the western terminus of the Canadian Pacific Railway Company's island division and the company's steamship makes regular calls. The Canadian Northern

Pacific railway, now under construction, will also pass through the town. The chief resources of the district are lumbering, farming, and fishing. Coal has also been discovered under the town. A post office and high school were erected during 1915.

An agreement was entered into between the Department and the Corporation of the City of Port Alberni by which the latter agreed to pay one-half the cost of a wharf, etc., at the end of Argyle street, which was constructed, under contract with Mr. R. H. Wood & Son, as follows:—Wharf having a frontage of 75 feet and an average width of 56 feet, approach, 329 by 16 feet, float, 50 by 25 feet, gangway, 36 by 4 feet, and shed, 21 by 16 feet, also breakwater for float 76 feet long. Seventy-six creosoted piles were delivered on the site by the department in August, 1915, but construction was not commenced until November 8, the wharf being completed December 25, 1915.

Authorization was granted on March 7, 1916, for the installation of lighting and water system at the initial cost to the department. It was agreed by the corporation of the city of Port Alberni that the future maintenance and cost of all electric power and water used should be borne by them. The amount expended by the department was $2,498.93.

PORT CLEMENTS.

Port Clements is at the head of Massett inlet, on Graham island, Queen Charlotte islands, and is the centre of a timber country, which produces a very large proportion of the clear spruce used for the construction of aeroplanes for the present war. In 1913, the Department built a wharf which had become so badly damaged by the action of teredos that it was in danger of falling down. Authority was given to make temporary repairs. In order to facilitate the completion of this work, arrangements were made with Mr. W. L. Barton, who agreed to make the wharf secure until an additional appropriation could be secured. The work done by him cost greatly in excess of the amount of $500 which he was paid.

POWELL RIVER.

Powell River is a town with a population of about 2,000, situated on the mainland of British Columbia, 80 miles northwest of Vancouver city. A large paper mill is located there, with an annual output of about 75,000 tons of news print paper. The total tonnage using the harbour is about 370,000 tons per year.

The harbour is protected from southeast winds by a breakwater built in 1911-12 by the Powell River Paper Company, and purchased by the department in that year. Heavy seas from the southeast, breaking over the work, caused breaches in the breakwater, and it was in the repair of these breaches and to maintain the 1½ to 1 slope on the southeast side that the expenditure of $4,931.72 was incurred.

The work was performed by James McDonald & Company, under agreement, for $1.60 per ton for rock in place. 3,033 tons of rock were placed in the breaches and in levelling a footing. Work was commenced on July 13, and completed on August 22, 1915, at a total cost of $4,931.72.

PROCTOR NARROWS.

The west arm of Kootenay lake converges at a point about one mile west of the outlet of the main lake, to form Proctor narrows. Navigation at this point was very difficult, especially for launches, due to a current of 8 to 9 miles per hour, cross-currents, eddies and whirlpools. The departmental dredge *Bittern* was operating at this place April 1, 1915, and continued until forced to close down for the high-water season, June 29. Work was resumed August 17, and proceeded with until October 27, 1915, when the dredge was moved to Cedar creek. Dredging again commenced at the narrows on November 3, 1915, and was discontinued January 20, 1916.

During the season 1915-16, two cuts were made on opposite sides of the channel. The cut on the north side, 311 feet long and averaging 60 feet wide, gives a depth of water, at the low-water stage, of 2 feet. The material moved, sand, gravel and large boulders, amounted to 6,885 cubic yards, scow measurement. The cut on the south side of the channel, 1,200 feet in length and averaging 50 feet in width, gives a depth of water, at low water, of 12 feet. The material removed, sand, gravel and boulders, amounted to 33,480 cubic yards, scow measurement; expansion factor is 15 per cent. The yardage at Proctor narrows removed during the season, 40,365 cubic yards, handled by dump scow, cost $15,379.26.

The improvement made here is of a permanent nature, reducing the current to 4 to 5 miles per hour, and it will doubtless have an effect on the high water stage at the narrows.

QUATSINO.

Quatsino is a settlement on Quatsino sound, at the north end of Vancouver island, 250 miles from Victoria. There is a pulp mill and government telegraph station, post office and school. It is a regular point of call of the Canadian Pacific Railway west coast steamship service.

For the convenience of launches, etc., a float, 20 by 30 feet, and gangway, 30 by 5 feet, were constructed adjoining the wharf. The work was performed in the interval of June 14 to July 10, 1915. The total cost of the work, which was done by day labour, was $432.25.

QUEEN CHARLOTTE CITY.

Queen Charlotte city is a settlement on Skidegate inlet, which is between Graham and Foresby islands, two of the Queen Charlotte islands, which are located about one hundred miles in the Pacific ocean, off the coast of British Columbia. The wharf at this point had become damaged by the action of teredos, and quite unsafe for vessels to tie up. From both an engineering and navigation standpoint the location of the original wharf was very poor and not economical; in the re-construction, the old wharf was pulled down and such material as was fit for use was put into the new wharf, the location of which is about four hundred (400) feet east of the old one. The new location is much more satisfactory to shipping, and far less expensive in construction than the old location. The wharf was renewed with creosoted material, the deck and freight shed being those of the old wharf. The expenditure necessary to complete this renewal being $5,699.49.

REFUGE BAY.

Refuge bay is situated on the north coast of Porcher island, about twenty-six miles southwesterly from Prince Rupert, and is one of the numerous islands along the westerly coast of British Columbia. The wharf, which was built in 1912, had been so damaged by the action of teredos that it completely collapsed, and the sum of $3,000, for renewal, was authorized. A large portion of the material in the old wharf was used in the re-construction, the piles being renewed with creosoted material and the old freight shed replaced, making a very satisfactory piece of work, and one which will not require further attention for probably ten years.

ROYSTON (or ROY'S BEACH.)

Royston is a flag station on the E. & N. railway, 130 miles northwest of Victoria, the Cumberland coal mines being about 7 miles distant. There is no organized community at the landing, but about 200 people are engaged in farming in the vicinity.

Six fender-piles and one bearing-pile were renewed in the wharf head, new decking on floor of freight shed, and landing steps leading to low water at the back of the wharf, these, owing to the exposed position of the wharf, were more applicable than the provision of a float and gangway as originally intended, as the latter would be difficult to secure during gales. The work was carried out during the month of October, 1915, at a cost of $200.

SAANICHTON.

Saanichton is a post office and centre of a farming community, supplying produce for the Victoria market, 10 miles distant, and is on the Victoria and Sidney railway. The population is about 150.

A float, 20 by 35 feet, and gangway, 6 by 30 feet, were constructed at the south end of the wharf, for the convenience of the settlers on the adjacent islands. The work was commenced at the beginning of May and completed on May 17, 1915. The total amount expended was $358.35.

SALMON ARM.

On November 4, the *Pelican* moved from Seymour Arm to the Salmon Arm city wharf and commenced work. On December 2, work was closed down for the season, the *Pelican* being towed to Chase, where she arrived on December 4 at noon, and the dredge laid up for the winter.

Whilst at Salmon Arm, 2,186 cubic yards was overcast at the outer end of the long cut, leading from deep water to the wharf, leaving 20,264 yards to move before this work is completed as authorized.

SEASIDE PARK.

Seaside park is a summer resort situated on the west shore of Howe sound, about 25 miles from Vancouver.

Authority being granted to build a float at this point, a contract was entered into with James McDonald & Co., on unit prices of $30 per pile, for creosoted piles, $10 per pile for fir piles, $30 per M for lumber, in place, and 12 cents per pound for iron, including hinges, etc. The work was commenced on June 9 and completed on June 28, 1915.

This work consists of a float, 40 by 60 feet, of cedar logs, with deck of 6- by 8-inch cross-ties, and 2- by 12-inch planking, and 6- by 6-inch guard rail all around. The float is held in place by 4 dolphins, braced and tied together with wire cable. A shed, 12 by 16 feet, is built on the float. A gangway, 32 feet long and 4 wide, leads from the approach to the float. A pile-bent approach, 444 feet long and 8 feet wide, leads from the shore. This approach is built up of 10- by 12-inch caps, three 6- by 11-inch stringers, 3- by 12-inch planking, with a 6- by 6-inch guardrail and handrail on each side. The centre piles of the approach are braced.

The expenditure was $2,982.90.

SEYMOUR ARM.

On October 20, the *Pelican* left Wilcox's Landing and arrived at Seymour Arm on October 21, commencing work on the 22nd. The material encountered being soft gray sand, 2,878 cubic yards of material were overcast; by actual survey, 2,463 cubic yards were overcast, single handled, and 342 cubic yards, double handled, a total of 2,805 cubic yards. The work was completed on November 3, the total cost being $315.06 and the approximate average cost about 11¼ cents per cubic yard.

SHUSHARTIE BAY.

Shushartie bay is a regular point of call for the Union Steamship Company, and is situated at the north end of Vancouver island, the wharf serving a scattered farming and lumbering community of about 200 people. The Goletas Fishing Company have a salmon cannery here.

The renewal of 32 bearing piles was made necessary, owing to the attack of the teredo; this work was commenced on August 21 and completed August 25, 1915, and the amount expended was $600.

SICAMORE.

Work was commenced re-dredging a cut, where much of the material previously dredged had washed back into cut; 5,905 cubic yards of sand were handled. This work was completed on August 30. On August 31 the *Pelican* was towed to Wilcox's Landing at Salmon Arm.

SIDNEY.

Sidney is a town at the terminus of the Victoria & Sidney Railway (G.N Ry.), having a population of about 300, and is 17 miles from Victoria. The Great Northern Railway have car ferry connection with the mainland here. Sidney has three churches, a public school and a large sawmill, also telephone communication, and mails daily. The industries are fishing, lumber and agriculture.

Authorization was granted for the renewal of 13 fender and 13 bearing piles, and repairs to 4 concrete piers in the Marine and Fisheries wharf, to which extensive repairs are required and which was closed to traffic in consequence. This work was done in the interval March 13 to 28, 1916, and enabled temporary repairs to be carried out pending the granting of a further appropriation to complete the necessary repairs and renewals required.

SKEENA RIVER.

Operations on the Skeena river were resumed on April 12 and continued until October 11, 1915, when the snag boat *Cygnet* was laid up on the beach at Digby island and placed in charge of a watchman, after her boilers had been washed and the machinery made ship-shape for the winter.

The total expense for operation and maintenance during the season was $10,763.54.

During the season, five hundred and forty-one (541) snags were secured and destroyed, against four hundred and forty-seven (447) last year. The cost per snag therefore this year was $19.88, against $24.23 the previous year, or a decrease in cost per snag secured, $4.35, with a lessened total operation cost of $78.94.

SKIDEGATE.

Skidegate is an Indian village on Skidegate inlet, between Graham and Moresby islands, two of the Queen Charlotte islands which are situated about one hundred miles off the west coast of British Columbia, in the Pacific ocean. The wharf, at this point, having become so damaged by teredos as to render it practically useless, it was necessary to renew same. The location of this wharf, in renewal, was changed slightly, to make a small improvement in the approach, and to render it a little cheaper in construction. The deck and freight house in the original wharf were used in making repairs. The piling was renewed with creosoted material, and the expenditure in making the necessary improvements was $6,803.38.

SOMAS RIVER.

The removal of twenty snags which were lying in the channel dredged by departmental dredge *Mastodon,* in the Somas river, between Port Alberni and Alberni, during the fiscal year 1911-12, was authorized, these being a source of danger to navigation between the above points. The work was carried out by contract, at a cost of $400, and was commenced October 14 and completed November 23, 1915.

SOUTH THOMPSON RIVER.

The departmental dredge *Pelican* is employed on the South Thompson river system, between the city of Kamloops and the Shuswap lakes, in a section of an extended waterway, navigable at ordinary stage, from Savona at the westerly end of Kamloops lake, to all points on the Shuswap river as far as Enderby. The range between high and low water varies from 11 feet in the Shuswap lakes to 25 feet in Kamloops lake, but there is no certainty of average high water from year to year, variation in either direction depending on possible consistent differences from normal temperature during the season of rise.

Dredging has been performed in the Little river and the South Thompson river at various times and places, with a view of at first rapidly opening the river for light-draught boats, at less than middle stage, and this end accomplished, work has been continued in the same and other places to enlarge and deepen the temporary channel and to improve the whole distance both as regards current and depth, which latter it is intended to increase to a minimum of 4 feet at low water.

During the fiscal year 1915-16, the operations of the dredge *Pelican* were confined to increasing the depth and width, and in straightening cuts made in former years through bars in the South Thompson river, in the vicinity of Shuswap, and at landings at several points on Shuswap lake.

SPILLER RIVER.

Spiller river is located on the east coast of Porcher island, one of the numerous islands along the westerly coast of British Columbia, and is about thirty miles in a southwesterly direction from Prince Rupert. The wharf which was built in 1912 had become so damaged by the action of teredos as to have completely collapsed. Authority was received to renew the wharf, and part of the material in the old wharf was used and the wharf renewed with creosoted piles in a most satisfactory manner. It is now in such a condition that it probably requires no further repairs for ten or fifteen years. The expenditure necessary to complete this wharf was $3,918.34.

SQUAMISH RIVER.

The Squamish river flows through the town of Newport into the head of Howe sound. A considerable logging business is engaged in along its banks and the logs are floated down to the mouth. Some of those logs and the drift brought down in freshets collect in jams and obstruct the free passage of the water, thus endangering the low-lying lands around the mouth, which are liable to flood. This expenditure of $903.15 was incurred in the removal of these obstructions from the main channel of the river, the work being carried out by day labour.

Work was started on May 25, and completed about July 31, 1915, the total expenditure being $903.15.

STAVE RIVER.

Stave river enters the Fraser river about 25 miles above New Westminster, on the north bank. Extensive logging operations are carried on at Stave lake, and about 30,000,000 feet of logs are put into the water each year, to be floated down the river,

thence into the Fraser. The work done was the deepening of the river at the end of a log roll, used by the Western Canada Power Company, to dump logs from a railway from the logging camps.

It being impossible to get a dredge into Stave river, owing to the fixed bridge of the Canadian Pacific Railway Company at its mouth, the work had perforce to be done with a scraper and donkey engine, by day labour. This necessitated the purchase of a scraper, blocks, cables, etc.

The cut has an average length of 260 feet, an average width of 130, and is dredged to 6 feet below assumed low water at this point. The amount of material removed was 3,824 cubic yards, in place, of sand and debris. Work was started on October 4 and completed on November 30, 1915.

The dredging is probably all that will be required for some time to come.

STEVESTON.

The work being done at the mouth of the main branch of the Fraser river has for its object the confining of the waters passing over the sandheads to a defined channel, which is being dredged parallel to the training piers. The proposed jetty on the north side of the channel is 27,000 feet long. Of the total length there was completed by March 31, 9,200 lineal feet, including 6,900 lineal feet, the first unit.

The work done during the fiscal year 1915-16, is the building of the second unit of this jetty with a length of 7,100 feet. The contract for the construction of this second unit was let to The Marsh, Hutton, Powers Company, of New Westminster, and work was begun on June 18, 1915. The work consists of a brush mattress and rock mound which is made up of the following materials, the quantities being approximate: brush mattresses, 120,262 cubic yards; lumber, 426,000 feet B.M., large rock, 48,350 tons; small rock, 77,800 tons.

Of this, the following materials have been placed up to March 31, 1916: Brush in mattresses, 106,300 cubic yards; lumber, 34,300 feet B.M.; large rock, 22,500 tons; small rock, 71,183 tons; 5,700 lineal feet of apron mattress, and 4,800 lineal feet of upper mattress has been completed, and rock has been laid for a distance of 2,300 lineal feet.

The total expenditure on this work to March 31, 1916, is $285,859.86.

Dredging.

Steveston, New Westminster district, is situated at the mouth of the Fraser river, about 17 miles from New Westminster, and is the centre of the salmon fishing and canning industry on the Fraser river.

Authority being granted to do certain dredging in a channel of the river, which fronts on ten or more canneries, and which is used by numerous fishing boats and shipping steamers, work was started on June 17 and completed on July 15, 1915, by the departmental dredge *King Edward*.

The completed cut is 1,750 feet long, with a minimum width of 150, to 8 feet below low water at this point. The material is sand and silt, the total amount removed being 66,740 cubic yards, including 2,310 yards below subgrade, place measurement.

Dredging was done here in 1913-14, and it is probable that shoaling will again take place, necessitating further dredging in two or three years. If the cut were continued east to deep water it is probable that the action of the water would keep the channel scoured out. An additional 1,000 feet would be required to accomplish this.

Dredge captain's returns make quantity removed at this place 99,715 cubic yards, which shows that a considerable amount of filling-in occurred during progress of work.

STIKINE RIVER.

Stikine river is in northern British Columbia and flows in a southwesterly direction and empties into the Pacific ocean at Wrangell, Alaska; the first thirty-five miles, proceeding up-stream from its mouth, is in American territory, but the balance, one hundred and thirty miles, to Telegraph Creek, the head of navigation, is in British Columbia. The river is the main artery of travel and trade between the coast and the fur and mining district of northern British Columbia. This river had become dangerous to navigation through trees having been washed into it and jammed on certain bars. To render the improvements thorough it is necessary to work during the winter, late fall and early spring, or during the low stage of water. In the fall of 1915, a few of the most dangerous points where snags and trees had jammed were attacked. During the winter, our endeavours have been expended on a particularly dangerous rapid known as Glenora riffle, at which point several large boulders have been blasted out and a certain dangerous point removed; this work is still in progress. During the coming year, there will be eight freight and passenger boats plying on the river, owing to the discovery of very valuable mines and what is expected to be a large placer deposit above the boundary at Telegraph Creek. The work undertaken is of inestimable benefit to traders, trappers, prospectors and the public generally along this river. The total expenditure to the end of the fiscal year is $5,611.02.

SUMMERLAND.

The dredge *Heron* commenced dredging alongside the Canadian Pacific Railway Company's transfer slip. Work was continued until 5th February, when it was suspended owing to severity of weather until 6th March, when work was resumed and continued until 17th March, when, being completed, the dredge was moved to Kelowna. A total of 1,996 cubic yards was handled at Summerland, of which 848 yards was single-handled and 1,148 yards double-handled.

TAMBOLINE SLOUGH.

Tamboline slough, New Westminster district, runs from north to south through Westham island, from the Fraser river to the sandheads at the mouth of Canoe pass. It is at the south end of the slough that dredging was done this year by the dredge *King Edward* to allow small freight boats to run up the slough to collect grain, hay and other farm produce.

On their own responsibility, the Navigation Dredging Company, of Vancouver, dredged here in 1914-15. They cut 1,050 feet, 80 feet wide, to 7 feet at L.W.O.S.T., removing about 19,478 cubic yards of silt and sand, place measurement. This depth of 7 feet was not maintained as the material partly slipped and partly blew back into the cut, being deposited along the edges of the cut itself.

On April 26, 1915, the *King Edward* started work and completed the cut to the bridge over the slough on 10th June, 1915.

The cut has a length of 3,200 feet, the width varying from 85 to 130 feet; the total amount of material removed being 123,660 cubic yards sand, in place. The material was pumped behind the bulkhead at the bridge, filling up the slough behind, and on the banks of the slough strengthening the dykes. It is expected that this work is of a permanent nature.

The dredge captain's returns show a quantity of 128,510 cubic yards removed.

THOMPSON RIVER.

During the past fiscal year, a cut was lengthened 188 feet, by 45 feet in width, by 5 feet in depth, 940 cubic yards, by bucket measurement, of sand and gravel being overcast and dumped on side of cut, the place measurement being practically the same

This work being completed, the dredge was then moved to Coburn's bar; this cut, first dredged during fiscal year 1914-15, was widened by 45 feet, for a distance of 804 feet, average depth of face being 3 feet. 400 cubic yards of clay and gravel being single-handled, and 3,220 yards double-handled; the place measurement being the same. This work commenced on 9th April and was completed on 26th May.

On the 27th May, the *Pelican* returned to Chase for repairs, leaving there on 2nd August for Sicamous, where she arrived on 3rd August.

TWO BEACON BAR.

The departmental dredge *Sheldrake* commenced operations at the lower end of Two Beacon bar on October 27, 1915, and continued till ice conditions forced the dredge to tie up on January 11, 1916. Work was resumed March 6 and completed March 31, 1916. During these two periods, a cut, 3,600 feet long and 75 feet wide, was made through sand and clay, and 48,850 yards of material were removed, all overcast; expansion factor is 15 per cent.

This cut gives an all-year channel for steamers with a minimum depth of eight feet at low water.

The total cost of work was $5,865.94.

UNION BAY.

Union Bay is an important community having a post and custom office, also government telegraph and telephone, and is situated on Baynes sound, 50 miles northwest of Nanaimo, and 7 miles from the Cumberland mines, for which it is the point of shipment. Mail 5 times weekly.

The work carried out consisted of the renewal of 29 fender-piles at the front of the wharf, also 4 braces and two bearing-piles in wharf and approach respectively. Construction was commenced about the beginning of August and completed August 25, 1915, at a total cost of $510. The work was carried out, by contract, by Messrs. James MacDonald & Company.

Additional repairs to above wharf and approach were subsequently found to be necessary, 27 piles, also 3 fender and 5 brace-piles in the latter were renewed, also 3 fender and 5 brace-piles in the wharf head, together with other minor repairs. These repairs were also done by contract by the above firm and were commenced about the beginning of October and completed October 23, 1915. The sum of $550 was expended.

UPPER FRASER AND TRIBUTARIES.

Two parties were formed, one to operate on the Tachi river and the other on the Stuart river.

The Tachi river party left Vanderhoof on August 31, and arrived at Fort St. James on September 1; the Stuart river party leaving two days later and arriving on 3rd. Two boats were built, one for each party; and on September 7, both parties left for the points to which they were, respectively, assigned for work.

The work on the Tachi river was a continuation of that done during the autumn of 1914, and consisted of removing boulders of various sizes from a located channel, for the purpose of enabling power boats to ascend the river from Stuart lake to Trembleur lake, thence by the Middle river to Tacla lake. There is now a fairly good channel throughout this whole distance, and it is hoped that a further small expenditure, during the autumn of 1916, will complete this work so that ordinary river steamboats can operate at any stage of water.

Work on the Stuart river was done throughout its whole length from Stuart lake to the mouth at Nechaco river, a distance of approximately 75 miles. A fairly good channel has been provided for power boats from the head of Chinlac rapids to Stuart

lake, and a passage opened through these rapids by which a steamboat can pass with comparative safety during a fair stage of water.

Regarding the head of Chinlac rapids as one terminal, and the head of Tacla lake as the other, there is now a fair water route open through the Stuart lake district for a distance of 195 miles, made up as follows:—

Stuart river	75	miles.
Stuart lake	26	"
Tachi river	13	"
Trembleur lake	8	"
Middle river	23	"
Tacla lake	50	"
Total	195	"

On 30th November, work terminated, tools and camp outfit being stored, part at Fort St. James and the balance in a cabin on the Stuart river.

The total expenditure on this service amounted to $12,462.11, about evenly divided between the two works, Tachi and Stuart.

VALDES ISLAND.

Authorization was granted for the construction of a landing at the north end of Valdes island about 14 miles from Nanaimo, and completed as follows: Float, 24 feet 5 inches by 16 feet 4 inches; approach, 25 feet by 4½ feet, and gangway, 26 by 2½ feet, together with reinforced concrete piers at head of gangway. Construction was commenced August 5, and completed September 11, 1915, at a total cost of $399.30.

VANCOUVER.

This wharf is fully described in annual report for 1915.

Work was commenced on October 1, 1913, and completed on October 31, 1915.

The final estimate, amounting to $1,748,498.73, was forwarded to Ottawa for payment, of which amount $5,362.61 was for extras. Inspection expenses, amounting to $5,594.34, were paid from this office, making a total expenditure for the year of $773,837.37.

The extras included $1,484.78 for bulkhead on the west side of the backfill, and $2,458.17 was expended for floating logs instead of lower waling.

The other item for extras amounted to $1,419.70, for a floating wharf for small boats to land at. This float is built of cedar logs, cross-ties and planking, with a gangway 44 feet long and 6 feet wide, leading from the wharf level to the float, hinged to a concrete block sunk in the ground.

Small wharf.

Authority was received on January 26 to enter into an agreement with Messrs. Snider Bros. & Brethour for the construction of a wharf in front of the immigration building, for the sum of $4,549.

The wharf, as built, consists of a pile-bent and timber-decking wharf, 30 feet wide and 240 feet long, extending the whole length of the detention shed.

There is an approach, 14 feet wide, on the east side and on the west side of the wharf, and a float, 12 feet by 30 feet, let in the northeast corner. Creosoted piling was used for both main piles and bearing piles.

Work on this wharf was commenced March 11 and completed April 7.

VANCOUVER.

Dredging.

First Narrows.—The entrance to Burrard inlet from the sea is through a contracted channel known as the First Narrows. This channel is of varying width, the least being opposite Prospect point, where it was originally 450 feet, between 30-foot contours. The work being done at this time has for its object the widening of this channel to 1,200 feet, and deepening it to 35 feet below L.W.O.S.T. This work is being performed by the departmental ladder dredge *Mastodon*, working day and night shifts. The following table gives the details of the work:—

Dates between which work was performed.	Cubic yards Scow Measurement.	Materials.
1st April, 1915, to 31st March, 1916	969,020	Gravel.

The yardage, according to place measurement, would be 20 per cent less than the scow measurement (this being found closer than 15 per cent), or 807,517 cubic yards.

The complete scheme for the improvement of the First narrows was reported on December 1, 1909, when the estimated yardage was placed at 2,116,900 cubic yards, place measurement, and included 68,900 yards to be taken from Parthia shoal, in the centre of the eastern end of the narrows. This estimate was based on a widening of the original channel to 1,200 feet, and on a depth of 30 at L.W.O.S.T. On October 4, 1913, it was recommended that the dredging be carried to 35 feet at L.W.O.S.T. This work, involving the removal of an additional 371,000 cubic yards, was authorized, and is being carried out. An additional 90,000 yards was involved in a 200-foot cut, on the north shore for Vancouver water-pipes, making a total of 3,365,299 cubic yards, place measurement. Additional material removed to date includes 96,277 yards, for 1-foot subgrade over original area on north shore, 63,700 yards cut for second line of city water pipes, and 28,250 yards cut on Parthia shoal to 1-foot subgrade, or a total of 188,227 cubic yards, place measurement.

The grand total amounts to 3,553,526 cubic yards, place measurement. Adding 20 per cent, we get 4,264,231 yards, scow measurement. The following table gives the amount removed to 31st March, 1916:—

1911-12	249,620	cubic	yards	scow	measurement.
1912-13	207,000	"	"	"	"
1912-13 Parthia shoal	134,700	"	"	"	"
1913-14	787,180	"	"	"	"
1914-15	922,180	"	"	"	"
1915-16	969,020	"	"	"	"
	3,270,000				

This leaves a total of 994,231 yards, scow measurement, yet to be removed.

It is not possible to give the dimensions of the work done this year owing to its irregular nature. The work is of a permanent nature, and was done by the departmental dredge *Mastodon*, between April 1, 1915, and March 31, 1916.

False Creek.—The work being done in False creek has for its object the utilizing, as an additional harbour to that of Burrard inlet, a long narrow shallow basin of tidal water running from English bay to the centre of the city. This work necessitates the deepening of a channel, some 13,500 feet long, 350 wide, and 20 feet deep at L.W.O.S.T., from grade in English bay to the Great Northern Railway bridge crossing False creek, together with a dredged cut, some 2,400 feet long and having an average width of 188 feet, the latter cut running northerly from the inner end of the main channel and having a depth of 12 feet below L.W.O.S.T.

On March 3, 1913, a contract was awarded to the Pacific Dredging Company, of Vancouver, to remove 3,300,000 cubic yards of various materials at a flat rate of 21 cents per cubic yard, place measurement. A further amount of 542,000 yards was authorized on December 24, 1913. This material was taken out of the turning basin at the inner end of the cut. This makes a total of 3,842,000 yards authorized to be removed from False creek. Of this amount there has been removed up to March 31, 1916, 3,236,451 cubic yards. Up to March 3, 1915, there had been removed 1,846,281 yards, showing that 1,330,170 yards clay, sand, gravel, shells and boulders have been removed during 1915-16. It is not possible to give the dimensions of the dredging done this year, as operations have been carried on over so many parts of the channel and over areas already partly dredged. The total amount remaining to be done after March 31, 1916, according to amount removed to that date, and amount authorized, is 605,549 cubic yards.

Estimates to the gross amount of $679,654.71, in favour of the contractors, have been forwarded to Ottawa for payment.

VICTORIA.

The Dominion Government wharf is used by boats belonging to the Public Works and Marine and Fisheries Departments, when loading supplies in connection with dredging operations and the lighting and buoying of the coasts.

Fifteen fender-piles were renewed including 4-pile corner dolphin, also 5 creosoted fender-piles were drawn and re-driven together with renewal of chocks. The work was commenced at the beginning of August and completed August 17, 1915, at a total cost of $185.

Breakwater.

The breakwater at Ogden Point, 2,500 feet long, is practically complete.

The core stone was completed during the fiscal year 1914-15; the grand total being 241,925 tons.

The mound is complete to the beginning of the second curve, and from there is nearly completed up to low-water mark to outer end. The rubble stone placed in the mound, during the fiscal year, was 237,861 tons.

The granite has been laid under water to the end of the second curve, and above low water, the course, except the top one, have been completed to within 100 feet of the beginning of the second curve. The bottom course has been eliminated from the beginning of the second curve; quantity laid, during the fiscal year was 79,918 tons.

The mass concrete blocks, up to elevation 21 to end of the middle tangent and the middle block of the second curve have been completed, making a total length of 1,804 feet. Extra concrete, due to settlement of blocks, has been added to the extent of 140 cubic yards; 24 feet of joining wall was built on the end of the breakwater last fiscal year; the quantity during the fiscal year amounted to 3,405 cubic yards and the total of 1-3-5 concrete was 14,031 yards.

Practically all excavation was completed during the past fiscal year 1914-15, none being done this year. The small portion that remains to be done is in the vicinity of the joining wall. The total rock excavation, to date, is 54,647 cubic yards. The expenditure for the fiscal year is $685,472.73.

Wharf.

The total amount of earth excavation allowed is 45,228 cubic yards.

The total amount of rock excavation allowed is 12,000 cubic yards.

The mound is practically complete, the quantity deposited during the fiscal year being 36,524 tons.

Gravel has been deposited for crib-beds over the greater part of the surface of the rubble mound. A length of 1,890 feet has been levelled off ready to receive cribs; this

material when deposited is classified as rubble and paid as such. When levelled off it is deducted from the rubble quantities and paid for as broken stone to the depth of one foot, balance is paid for as rubble. The quantity of broken stone deposited during the year amounts to 1,778 cubic yards.

Two 80-foot cribs were sunk on bulkhead east side of pier 2, and seven were sunk on east side of the pier, three 80-foot cribs and one 90-foot crib were sunk on west side of pier 2. Four 80-foot cribs were sunk on bulkhead between piers Nos. 2 and 3, and one 80-foot crib on east side of pier 3, making a total of eighteen cribs sunk during this fiscal year. Two 80-foot cribs having been sunk during the fiscal year 1914-15, making a total of twenty cribs sunk to March 31, 1916, and one afloat ready to sink.

Total concrete in eighteen cribs sunk, 1915-16, including 50 per cent of one crib launched, but not sunk, is 22,498·11 cubic yards.

Reinforcing steel in cribs amounts to 1,573,761 tons.

The amount of filling placed in cribs for 1915-16, was 16,988 cubic yards, which amounts to about 30 per cent of the required amount for cribs that are sunk in position.

The backfill has been placed in the piers nearly up to the 35-foot level, and practically none has been placed between the bulkheads and shore, the quantity placed is 83,534 cubic yards.

Dredging.

The dredging carried out during the past year had as its object improvements to the entrance to the harbour, by the removal of rock and silt, near Shoal point and of the channel to James bay, especially by the removal of rock in the vicinity of Pelly island and Songhees point. The navigable area is being gradually increased year by year and the required depth of 20 feet below low water over areas already covered. is being maintained. The following plant has assisted in the work done: Dredges *Ajax, Mudlark, Victoria, Lobnitz rock breaker No. 1,* and drill plants Nos. 1 and 2. During the year, the dredge *Ajax* was absent, at Nanaimo, on two occasions, about twelve weeks in all, while the dredge *Mudlark* became submerged and lost. approximately, six weeks' work for this reason.

The turning basin outside the outer wharfs was increased by an additional area of 4½ acres, dredged to 30 feet below low water, to facilitate ocean-going vessels when backing and turning when leaving the outer wharfs. Dredging was also undertaken in the dock, at the outer wharfs, in order to provide the required grade of 30 feet below low water where silting had taken place.

Silting having taken place in the channel between Shoal point and Work island, near the entrance to the inner harbour, it was necessary to re-dredge this area, which at the end of the fiscal year was practically all to grade, while an additional width of 70 feet was provided on the easterly side of the channel between the outer wharfs and Shoal point. Off Shoal point an additional width of 130 feet has been provided by the removal of rock and the subsequent removal of sand, etc., made accessible thereby, which gives a much easier entrance to vessels rounding this point, and which is much appreciated by mariners. As this portion of the harbour is exposed to southeast winds, works can only be undertaken under favourable weather conditions, and it is frequently necessary for the dredges to leave for a more sheltered part of the harbour, when working in this vicinity. Great improvement has been effected by the removal of rock adjacent to Pelly island. Princess rock having been cut back approximately 120 feet, to a depth of 18 feet at low water, and Platform rock has been almost totally removed. At the beginning of 1914, this rock was dry at low water and is now, with minor exceptions, to the required grade of 20 feet below low water. The beacon marking the channel at this point has been moved 250 feet west and 100 feet north of its position one year ago, with the result that vessels are now enabled for the first time in the navigation of the harbour to take an approximately straight course between Laurel point and the bend in the channel at Shoal point.

An additional average width of 75 feet dredged to grade was provided in the narrowest part of the channel on its northerly side, between Songhees and Laurel points; the removal of rock, and also of clay and hardpan, in order to render further rock available for removal, is in progress on the easterly side of Songhees point and in the direction of the Eastern & Northern Railway bridge. Additional width here will be of considerable benefit to the Canadian Pacific Railway Company's boats when backing and turning at this point after leaving their dock.

Additional facilities have been provided for Government vessels by the provision of a mooring basin, dredged to 18 feet at low water, adjoining the Government wharf.

On the west side of the upper harbour, between Hope and Ellice points, an additional width of 130 feet has been provided, dredged to grade, also a considerable addition to the navigable area of the channel between the Victoria machinery depot and Rock Bay bridge. The only obstacle remaining in the upper harbour is Turpel rock, in its centre, but there is a channel on either side of this rock, and its removal is not as urgently required as that of rock in other parts of the harbour.

A channel 70 feet wide, and varying from 5 to 2 feet at low water, was dredged in Rock bay leading from the upper harbour, in order to provide a channel, navigable for scows, to the wharfs at the south-easterly end of the bay. This work was undertaken by the orange peel bucket dredge *Victoria*, as was also a channel to the city asphalt plant, 70 feet in width, and having a depth of 5 feet at low water, except at its upper end where the nature of the material did not allow. This was provided in order to give facilities for transportation of road-making material, by scows, to this point.

Summary of material removed from Victoria harbour during the year:—

	Cubic yards. Rock.
Shoal point	2,985
North side of channel in vicinity of Pelly island and Songhees point	33,435
At pier sites, Ogden point, testing nature of material	30

	Cubic yards. Hardpan, clay and silt.
To 30 feet below L.W.L.—	
Outer wharfs and turning basin adjacent	44,995
To 20 feet below L.W.L.—	
Improvements to and widening of channel between entrance to harbour and Songhees point	85,020
West side of channel between Songhees point and Eastern & Northern Railway bridge	86,565
Mooring basin at Dominion Government wharf	2,500
Upper harbour—west side	31,900
Upper harbour—between Victoria machinery depot and Rock bay	51,490
To 5 feet below L.W.L—	
Rock bay	22,676
Channel to city asphalt plant	12,896
At pier sites, Ogden point, testing nature of material	390
Total excavation during the year, scow measurement	374,882

The quantities of rock to be credited to the drill plants and rockbreaker are as follows:—

Lobnitz rockbreaker *No. 1*	18,195	cubic yards.
Drill plant *No. 1*	9,420	"
Drill plant *No. 2*	8,805	"
	36,420	"
Testing bottom on new pier's site	30	"
	36,450	"

The excavated material was removed as follows:—

	Rock.	Clay, silt and hardpan.	Total Cubic yards.
By dredge *Ajax*	33,385	157,945	191,330
" *Mudlark*	.....	142,850	142,850
" *Victoria*	3,065	37,637	40,702
	36,450	338,432	374,882

The nature of the material removed consisted of rock, mostly of a very hard nature, and lacking in cleavage, hardpan, blue clay, mud and sand.

The work of first importance during 1916-17, is the further removal of rock at Shoal point, and to the south of Pelly island, also in the vicinity of Songhees point and on the westerly side of the channel between Songhees point and the Eastern and Northern Railway bridge. Should the work in other parts of the harbour permit, commencement can be made in dredging a channel, to 20 feet below L.W.L., to the north of Pelly island, having a minimum width of 300 feet. This may be looked upon as preliminary to the eventual removal of the whole of the rock in this vicinity and, in the meantime, would give an alternative entrance to the harbour. It has been ascertained by borings that this channel can be obtained without the removal of rock. Some further additions to the turning basin opposite the outer wharves, to 30 feet below low water, may also be desirable.

WESTHAM ISLAND.

This work consists of providing protection for about 200 feet of bank that was being eroded on the north side of Westham island. The protection consists of a row of piles 6½ feet centres, capped by a 6 by 11 cap, tied back to dead-men behind the dyke by several wire cables. Brush in fascines covered with rock was placed behind the row of piles. There were 45 fir piles, 146 cords brush, and 84 yards of rock used.

Authority for this work was granted on September 29, 1915, and work started on October 5. The work was completed on October 20.

The total expenditure was $498.89.

WHITE ROCK.

White Rock is a summer resort situated on the Gulf of Georgia, one mile north of the international boundary and on the line of the Great Northern railway. It is also headquarters for customs and immigration staffs. Boats proceeding to and from United States ports call there for clearances.

During the year 1914-15, part of the proposed wharf was built, consisting of 628 lineal feet of pile-bent approach, 20 feet wide, with a small-boat landing float 20 by 40 feet at the outer end.

The work done this year was the completion of the wharf, comprising the building of a further 985 feet of pile-bent approach, 20 feet wide, the outer 70 feet being

widened to 40 feet, with a slip, 10 by 20 feet, at the outer end. The decking consists of 8 by 11 stringers, 4 by 10 joists, 10 by 12 caps and 3 by 12 planking.

The work was performed by the Fraser River Pile-Driving Company, under agreement, at $16.20 per thousand feet, B.M., for lumber, including all iron for fastening and paint for handrail, and $5.30 per pile for driving, the department supplying all material.

Work was commenced May 21 and completed July 28, 1915, and was completed at a total cost of $10,157.34.

WHONNOCK.

Four new fender piles, chocks and braces and replacing old planks in wharf. Work was done September 15 to 17.

WILCOX'S LANDING, SALMON ARM.

Dredging.

The material removed consisted of a stiff blue clay, very difficult to handle, and as the dipper could not be made to penetrate more than a few inches at a time, progress was consequently slow; 5,542 cubic yards of material were overcast; by actual place measurement the cut made was 848 feet in length, by 37·5 feet average width, by 3·61 feet average depth; the amount of material removed being 4,251 cubic yards, single-handed. The work was completed on October 19; the total cost of the work being $1,138.36, and the approximate cost per cubic yard 26·73 cents.

WILLIAM HEAD, QUARANTINE STATION.

William Head is a quarantine station on the Juan de Fuca strait, 10 miles by water from Victoria, where ocean-going steamers report before proceeding to Victoria and Vancouver.

The following improvements and repairs were performed during the fiscal year ending March, 1916:

Coal wharf.—Indication showed that additional support was required in order to carry the weight of the coal stored in the coal shed, the latter was therefore removed and three new bents were added between the existing bents, consisting of 6 creosoted piles, with 12- by 12-inch caps, the stringers, posts and decking were renewed and the shed replaced and repaired. The approach to the coal wharf was repaired and the slip practically rebuilt. Ten fender piles were renewed at the front and five at the side of the wharf, together with the necessary chocks. Two new dolphins, consisting of 6 creosoted piles, were driven at the side of the coal wharf and the three existing ones removed. The dolphin near the front of the coal wharf was reinforced with 6 new creosoted piles.

Main wharf.—Six new fender-piles were driven in front of the main wharf and cabled together in clusters of 5 piles each. One bent of the northerly approach to the main wharf was renewed and the inclined approach to the float was repaired and raised 2 feet at its lower end.

Engineer's tool shed.—A new shed, 15 by 20 feet, was built on the approach to the coal wharf, fitted with benches and lockers. The exterior was 1 by 6 rustic, with shingled roof, and painted to conform with the other buildings upon the wharf.

Cribwork.—Seventy feet of log cribwork was built at H.W.M., in continuation of the existing cribwork at the rear of the main wharf, to prevent erosion. The cribwork was double, tied in with 6 by 8 stringers and drifted with ¾ drift iron. The filling was of rock and gravel. Some odd time was also spent in improving the road to the station. The work was carried out by day labour, and was commenced June 22 and completed

September 30, 1915, with the exception of the repairs to the approach to the main wharf, which were done during December, 1915. The total amount expended was $2,872.91.

DREDGING OPERATIONS.

The detail description of work done by the different dredges will be found under the name of the place, in the body of the report.

Where dredging is described and classified as "A" or "B," the explanation is:—

Class A.—Solid rock requiring drilling and blasting, and boulders containing two cubic yards or more.

Class B.—Loose or shale rock, silt, sand, quicksand, mud, shingle, gravel, clay, clay and sand, gumbo, boulders, hardpan or material of any kind whatsoever except that specified under class A.

The following tables cover the work done by each particular government dredge and the classification of expenses, under the different headings, will be readily understood by the following definitions:—

Wages.—Comprise the pay-roll from the day the plant starts work in the spring until the last day of operation in the fall. This includes the regular crew as well as extra help employed during the above time. In British Columbia, where season differs from other provinces, "wages" will consist of pay-rolls for all time plant is in operation, except when laid up during rainy season or for special repairs. (See definition under Repairs.)

Fuel.—All expenditure incurred for the purchase of coal, wood or fuel-oil used under boilers.

Water.—Cost of providing suitable water for boiler and other purposes, when necessary.

Subsistence.—Includes everything that goes to board of crew, such as cost of provisions purchased for allowance made for board of crew, also ice, laundry, fuel used in cooking; galley and dining room equipment.

Wharfage.—Consists of charges for wharfage as well as harbour dues, if any.

Pilotage.—Payment for services of special pilots including their travelling expenses.

Stores, Machinery.—Stock of valves; pipe and pipe fittings; chain; hose; hardware; waste; oils, grease; packing; tools; bolts; iron; wire and manila rope, etc.

General.—Stock of brooms, brushes, paint, paint oils and varnishes, etc.

Repairs.—The cost of keeping the plant in an efficient state of repair consists of:—

Labour.—The wages paid from the date operations are discontinued in the fall until resumed in the spring; also wages paid while the plant may be laid up for repairs during the working season, the latter being the proportion of the pay-roll which the total time lost due to repairs bears to the total possible working time.

Materials.—Supplies and parts purchased and used in making repairs; accounts for outside labour and materials employed in making repairs; subsistence, fuel, water, wharfage, pilotage, towage and contingencies during the period plant is laid up in winter quarters or is under repairs.

Rented Tugs.—All payments made in connection with any tugs not the property of the department.

Contingencies.—To consist of all small items of expense not otherwise classified, such as railway fares and travelling expenses, freight and express charges, drayage, telegrams, etc.

In the following tables, the work done by each particular Government dredge is for the period embraced in the calendar year; as a consequence the cost of work at any locality will probably not agree with the cost shown in the Accountant's report as the latter statement gives the cost of work at the locality based on the expenditure during the fiscal year.

NEW BRUNSWICK.

DREDGE, P.W.D. No. 1 ("W. S. FIELDING"), PROVINCE OF NEW BRUNSWICK.

Details of Materials and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled	17,418	.....	.....	.....	16,599	22,509	52,328	21,967	39,261	40,277	32,957	29,527	272,843
Class of material	Sand and mud.	.....	.....	.....	Sand and mud.	Sand and mud.	Sand and mud.	Sand and mud.	Sand and mud.	Sand, mud, gravel, rock	Sand, mud, gravel, rock	Sand, mud, gravel, rock	
Total possible dredging time hrs	140 00	.....	.....	.....	250 00	260 00	270 00	260 00	260 00	260 00	260 00	270 00	2,230 00
Total time lost hrs	111 20	.....	.....	.....	188 15	198 35	178 10	224 40	187 50	173 40	182 15	205 45	1,650 30
Hours actually dredging	28 40	.....	.....	.....	61 45	61 25	91 50	35 20	72 10	86 20	77 45	64 15	579 30
C.yds. handled per hour	607·54	.....	.....	.....	268·81	366·53	569·83	621·76	544·00	466·49	423·88	459·56	470·82

Details of Expenditure by Months.

Item of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts	$ cts
Wages	1,158 14	.....	.....	.....	1,893 28	2,010 39	1,704 03	1,013 97	2,223 05	2,028 11	2,141 20	2,639 33	16,811 50
Fuel, coal and oil	120 01	.....	.....	.....	1,329 04	199 07	710 10	1,005 24	1,237 18	.....	1,480 03	376 92	6,457 59
Water	188 53	.....	.....	.....	38 80	.....	99 68	.....	.....	144 13	.....	.....	471 14
Subsistence	409 77	.....	.....	.....	609 86	620 25	594 88	354 05	615 14	618 24	600 47	790 74	5,210 40
Wharfage	366 00	.....	.....	.....	.....	366 00	732 00	.....	429 00	732 00	472 80	366 00	3,463 80
Pilotage	90 00	.....	.....	.....	130 00	135 00	135 00	130 00	130 00	130 00	130 00	135 00	1,145 00
Stores Machinery	468 68	.....	.....	.....	64 71	42 78	355 30	516 73	190 90	416 96	269 27	642 73	2,968 06
Stores General	1 10	.....	.....	.....	34 85	58 76	17 76	32 44	11 28	7 82	10 05	2 60	176 66
Repairs Material	1,326 74	2,149 23	18,751 12	4,731 77	3,432 75	418 94	179 37	2,077 80	1,117 61	542 84	736 82	290 25	35,755 24
Repairs Wages	1,233 46	1,941 50	1,937 22	1,932 18	240 00	.....	597 06	1,434 56	.....	440 00	197 50	110 00	10,063 48
Rental of tugs	680 00	.....	.....	.....	885 50	967 00	1,011 00	.....	1,924 00	925 00	962 00	962 00	8,316 50
Contingencies	21 83	.....	7 13	.....	.....	51 07	228 80	71 06	21 60	60 00	.....	.....	461 49
Total expenses.	6,064 26	4,090 73	20,695 47	6,663 95	8,658 79	4,869 26	6,361 98	6,635 85	7,899 76	6,045 10	7,000 14	6,315 57	91,300 86

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Tug *Helena*	Jan. 4	Jan. 16	St. John Channel	9,740 80
	May 3.	Sept. 30.		
Tug *Helena*	Oct. 1	Dec. 31.	St. John Berths	6,327 66
Tug *Canso*	Dec. 1	Dec. 31.	St. John Berths	802 60
				16,871 06

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Tug *Nereid*	Jan. 4.	Jan. 16.	St. John Channel	680 00
Tug *Zella B* and *Ohawana*	May 3.	Sept. 30	St. John Channel	4,343 50
Tug Jas. S. Gregory	June 19	.....	St. John Channel	7 00
Tug *Neptune*	June 19	.....	St. John Channel	5 00
Tug *Lillie*	Oct. 17	.....	Towing Scow, Wiggins slip to dredge	5 00
Tug *Zella B*	Oct. 1	Dec. 31	St. John Berths	3,276 00
				8,316 50

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts.
St. John Channel	10,186 93	3,914 49	286 10	3,158 80	2,100 30	693 65	1,798 50	107 05	21,675 24	6,099 53	5,040 50	264 11	55,327 20
St. John Berths	6,624 57	2,543 10	185 04	2,051 60	1,363 50	451 35	1,169 56	69 61	14,080 00	3,963 95	3,276 00	197 38	35,973 66
Totals	16,811 50	6,457 59	471 14	5,210 40	3,463 80	1,145 00	2,968 06	176 66	35,755 24	10,063 48	8,316 50	461 49	91,300 86

Expenses Working at	Time Working.		Kind of Material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
St. John Channel	Jan 4	Jan 16	Sand and mud	170,082	1,440	351 10	157·55	0·325
	May 3	Sept. 30						
St. John Berths	Oct. 1	Dec. 31	Sand, mud, gravel and rocks	102,761	790	228 20	157·55	0·350
Totals				272,843	2,230	579 30	157 55	0·334

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring.	
							Scows, tugs.	Orders.		Fuel.	Water.
St. John Channel	311 30	49 45	225 10	41 10	238 00	50 00	61 05	.....	32 05	10 50	.....
St. John Berths	26 25	20 30	151 25	.....	138 15	20 00	59 20	.....	.....	16 45	.....
Totals, hours	337 55	70 15	376 35	41 10	376 15	70 00	120 25	.....	32 05	27 35	.....

Time Lost at	Cleaning.		Anchors and Mooring.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
St. John Channel	8 00	.....	60 00	.....	1 15	1,088 50	Dredge still working Dec. 31, 1915.
St. Johns Berths	10 00	30 00	89 00	.....	.....	561 40	
Totals, hours	18 00	30 00	149 00	.....	1 15	1,650 30	

General Remarks: 242 hours of the time lost due to repairs was in making guide for ladder and putting new links in hoisting gear on ladder. Large repairs were made to boiler and also back bearings.

DREDGE, P.W.D. No. 2 ("ST. LAWRENCE"), PROVINCE OF NEW BRUNSWICK.

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						12,600	14,800	15,800	15,600	18,200	800		77,800
Class of material						Clay and sand.	Clay and sand.	Sand and gravel.	Mud and gravel.	Logs and sticks.	Gravel		
Total possible dredging time hrs						200 00	206 00	260 00	250 00	260 00	50 00		1,316 00
Total time lost hrs						96 00	171 00	128 00	132 00	132 00	45 00		704 00
Hours actually dredging						104 00	125 00	132 00	118 00	128 00	5 00		612 00
C.yds. handled per hour						121·15	118·43	119·69	132·20	142·18	160·00		127·12

DETAILS OF EXPENDITURE BY MONTHS.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages						1,317 16	1,091 50	1,333 87	1,342 17	1,385 50	225 40		6,695 60
Fuel, coal and oil						635 75	873 31	1,614 90	418 25	415 80	2,360 07	1 47	6,319 55
Water	12 00					15 00		25 00	27 50		16 65	69 00	165 15
Subsistence						413 84	335 50	431 45	408 00	418 50	103 46	22 30	2,133 05
Wharfage													
Pilotage													
Stores Machinery											45 00		45 00
Stores General						270 95	35 77	30 90	279 31	7 87	156 81	32 49	814 10
Repairs Material	106 69	145 72	1,458 00	795 72	907 21	26 33		3 00	5 30		6 63		41 26
Repairs Wages	201 59	217 37	235 05	862 71	1,358 62	1,928 73	378 84	129 15	236 25	404 45	417 54	589 37	7,497 72
Rental of tugs							274 47		9 00		1,126 94	563 34	4,849 09
Contingencies			27 40			2 94			10 00	100 00		104 70	245 04
Total expenses	320 28	363 14	1,720 45	1,658 43	2,265 83	4,610 70	2,989 39	3,568 27	2,735 78	2,732 12	4,458 50	1,382 67	28,805 56

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts.
Tug *Canso*	June 8	July 15	Bathurst, Tête à Gauche Bar.	3,322 02
	July 15	Aug. 14 and 27-31	Batburst Lumber Co. Wharf	1,972 64
	Aug. 16	Aug. 25	Bathurst Inner Bar	778 93
	Sept. 1	Sept. 22 &	Campbellton Deep Water	1,505 50
	Nov. 3	Nov. 4	Wharves.	
	Sept. 23	Oct. 2	Campbellton Market Wharf	796 25
	Oct. 4	Nov. 2	Campbellton below Range Lights.	2,214 72
				10,590 06

RENTED TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts.

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Bathurst, Tête à Gauche Bar	2,100 52	1,982 52	51 83	669 12	.....	14 20	255 56	12 86	2,352 12	1,521 00	.....	77 05	9,036 78
Bathurst, Lumber Co. Wharf	1,247 20	1,177 10	30 75	397 22	.....	8 40	151 82	7 63	1,396 62	903 20	.....	45 76	5,365 70
Bathurst, Points Inner Bar	492 35	464 75	12 15	156 81	.....	3 00	60 05	3 31	551 37	356 73	.....	17 68	2,118 20
Campbellton, Deep Water Wharves	951 83	898 30	23 50	303 20	.....	6 30	114 82	5 82	1,065 87	689 37	.....	35 85	4,094 86
Campbellton, Market Wharf	503 30	475 07	12 42	160 60	.....	3 40	61 38	3 08	563 62	364 65	.....	17 76	2,165 28
Campbellton, below Range Lights	1,400 40	1,321 81	34 50	446 10	.....	9 70	170 47	8 56	1,568 12	1,014 14	.....	50 94	6,024 74
Totals	6,695 60	6,319 55	165 15	2,133 05	.....	45 00	814 10	41 26	7,497 72	4,849 09	.....	245 04	28,805 56

Expenses Working at	Time Working.		Kind of Material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Bathurst, Tête à Gauche Bar	June 8	July 15	Clay and sand	23,800	330	192	47·07	0·379
Bathurst, Lumber Co. Wharf	July 15	Aug. 14 & 27-31	Clay and rock	13,200	316	114	47·07	0·406
Bathurst, Points Inner Bar	Aug. 16	Aug. 26	Sand and gravel	6,200	100	45	47·07	0·341
Campbellton, Deep Water Wharves	Sept. 1	Sept. 22 and Nov. 3 & 4	Mud and gravel	10,800	220	87	47·07	0·379
Campbellton, Market Wharf	Sept. 23	Oct. 2	Logs and sticks	5,600	90	46	47·07	0·386
Campbellton, below Range Lights	Oct. 4	Nov. 2	Gravel	18,200	260	128	47·07	0·331
Totals				77,800	1,316	612	47·07	0·370

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Bathurst, Tête à Gauche Bar	11	25	32	.....	3	10	18	.....	.....	10	.....
Bathurst, Lumber Co. Wharf	121	16	.....	.....	3	.....	8	.....	.....	30	.....
Bathurst, Points Inner Bar	10	9	30	.....	4	.....	.....	.....	.....	.....	.....
Campbellton, Deep Water Wharves	25	9	.....	9	29	10	21	.....	20	10	.....
Campbellton, Market Wharf	10	10	12	.....	2	.....	.....	.....	.....	10	.....
Campbellton, below Range Heights	61	14	8	11	12	10	2	.....	.....	10	.....
Totals, hours	238	83	82	20	53	30	49	.....	20	70	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Bathurst, Tête à Gauche Bar	1	.....	.....	.....	28	138	
Bathurst, Lumber Co. Wharf	.....	.....	.....	.....	24	202	
Bathurst, Points Inner Bar	.....	.....	.....	.....	2	55	
Campbellton, Deep Water Wharves	.....	.....	.....	.....	.....	133	
Campbellton, Market Wharf	.....	.....	.....	.....	.....	44	
Campbellton, below Range Lights	.....	.....	.....	.....	4	132	
Totals, hours	1	.....	.....	.....	58	704	

General Remarks: Dredge put in commission at Bathurst, N.B., on June 8th; laid up for season at St. John, N.B., on Dec. 18, 1915. Most of the time lost due to repairs was in making repairs on bucket ladder.

DREDGE, P.W.D. No. 3 (RESTIGOUCHE), PROVINCE OF NEW BRUNSWICK.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December.	Total.
Cubic yards handled						27,899	38,178	30,169	16,532	16,400			129,178
Class of material						Sand and mud.	Sand and mud.	Sand, mud and sticks	Sand and gravel.	Sand and gravel			
Total possible dredging time hrs						180 00	270 00	260 00	260 00	230 00			1,200 00
Total time lost hrs						114 30	176 00	163 30	200 30	158 30			813 00
Hours actually dredging						65 30	94 00	96 30	59 30	71 30			387 00
C.yds. handled per hour						425 91	406 15	312 63	277 84	229 37			333 79

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.
Wages						1,192 66	1,203 72	1,203 83	1,199 66	1,186 29	293 26		6,279 42
Fuel, coal and oil					131 40	199 72	457 00	509 48	664 48	1,056 84	148 26	63 00	3,230 18
Water					24 00	7,50			268 15	170 90			470 55
Subsistence	6 75				22 28	373 20	388 75	386 50	373 00	392 86	325 25	9 88	2,278 47
Wharfage													
Pilotage													
Stores { Machinery	6 95		166 90			131 24	221 31	86 93	175 97	125 85	23 73	8 00	946 88
Stores { General	1 93								8 50	2 10	11 86		24 39
Repairs { Material	505 94	38 75	3,966 29	1,245 53	1,460 80	2,154 59	1,249 32	282 47	32 00	96 44	32 50	102 70	11,167 33
Repairs { Wages	195 00	520 00	527 75	712 82	1,083 15						732 90	311 00	4,082 62
Rental of tugs													
Contingencies					26 00	33 42	19 49		4 65		13 37	152 62	249 55
Total Expenses	716 57	558 75	1,660 94	1,958 35	2,747 63	4,092 23	3,539 59	2,469 21	2,726 41	3,031 28	1,581 13	647 20	28,729 39

Details of Tug Service. Tugs in attendance and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Tug *Fredericton*	June 10	June 12 & Aug 27	Campbellton, N.B	314 84
	June 14	Aug. 26	Oak Point and The Traverse.	4,426 28
	Aug. 27	Sept. 23	Bathurst, Ripple Bar	1,009 34
	Sept. 24	Oct. 27	Bathurst, Outer Bar	1,416 78
				7,167 24

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Campbellton Wharf	275 00	142 43	20 65	100 14	.....	.....	42 13	1 07	490 57	179 30	.....	10 71	1,262 00
Oak Point and Traverse	3,878 40	1,993 91	290 38	1,407 05	.....	.....	583 81	15 05	6,916 57	2,521 42	.....	135 48	17,742 07
Ripple Bar, Bathurst	884 50	455 18	66 34	320 90	.....	.....	133 63	3 43	1,572 65	574 90	.....	34 59	4,046 12
Outer Bar, Bathurst	1,241 52	638 66	93 18	450 38	.....	.....	187 31	4 84	2,187 54	807 00	.....	68 77	5,679 20
Totals	6,279 42	3,230 18	470 55	2,278 47	.....	.....	946 88	24 39	11,167 33	4,082 62	.....	249 55	28,729 39

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Campbellton Wharf	June 10	June 12 & Aug27	Sand	2,183	40	17	74 23	0·578
Oak Point & Traverse	June 14	Aug. 26	Sand, mud, sticks	94,063	640	239	74 23	0·188
Ripple Bar, Bathurst	Aug. 28	Sept. 23	Sand and gravel	15,332	230	54 30	74 24	0·263
Outer Bar, Bathurst	Sept. 24	Oct. 27	Sand and gravel	17,600	290	76 30	74 24	0·322
Totals				129,178	1,200	387	74 24	0·222

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting oa		Towing, etc.	Procuring.	
							Scows, Tugs.	Orders.		Fuel.	Water.
Campbellton Wharf	.....	.....	.....	10	.....	.....	.....	.....	6	3	3
Oak Point and Traverse	44 30	3 00	.....	3	.....	10	4	.....	290 30	30	4 2
Bathurst, Ripple Bar	51 30	30	42 00	2	.....	10	31	.....	14	7	
Bathurst, Outer Bar	21 00	.....	111 30	.....	.....	10	22	.....	39	10	.....
Totals, hours	117 00	3 30	153 30	15	.....	30	57	.....	349 30	50	9

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Campbellton Wharf	1	.....	.....	.....	.....	23 00	Chk. No. 2330 for $300 charged to W.D.P. Appropriation deducted from Dredging Mar. Provinces, August return.
Oak Point and Traverse	2	4	.....	.....	6	401 00	
Bathurst, Ripple Bar	.....	.....	.....	.....	15 30	175 30	
Bathurst, Outer Bar	.....	.....	.....	.....	.....	213 30	
Totals, hours	3	4	.....	.....	21 30	813 00	

General Remarks: Dredge put into Commission at Campbellton, N.B., June 10th; laid up for season at Sydney, C.B., N.S., on Nov. 20th, 1915. Regarding 290½ hours lost time at Oak Point and The Traverse due to towing, etc. This is accounted for in the distance scows and dredge had to go to dumping ground which was from 5 to 6 miles from place of work. Most of the time lost due to repairs was in repairing sand pump, leak in boiler and gate. Large repairs were made to scow, sand pump, suction pipe, and pump plate.

NOVA SCOTIA.

DREDGE, P.W.D. No. 5 ("NORTHUMBERLAND"), PROVINCE OF NOVA SCOTIA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						30,496	63,992	70,920	69,475	69,658	35,221		339,762
Class of material						Hard clay, stones, shells	Mud, gravel stones.	Mud, gravel stones.	Gravel, sand, stones.	Gravel, sand, stones.	Gravel, sand, stones.		
Total possible dredging time hrs						430	490	486	480	470	320		2,670
Total time lost hrs						239	280	242	254	188	138		1,341
Hours actually dredging						191	210	238	226	282	182		1,329
C.yds. handled per hour						159·65	304·72	297·08	307·41	247·01	193·52		255·65

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages						1,425 83	1,460 67	1,472 23	1,474 00	1,467 76	2,308 31	217 66	9,826 46
Fuel, coal and oil					665 00	673 00		1,236 37	1,246 71	1,221 48	1,789 59	906 55	7,738 70
Water					100 80	74 40	22 40	117 60	229 60	106 40		100 80	752 00
Subsistence					18 50	474 80	507 33	512 00	511 01	522 24	305 63	180 15	3,031 66
Wharfage													
Pilotage							10 00					10 00	20 00
Stores {Machinery				13 44		801 26	398 95	57 12	68 48	576 99	96 80	772 83	2,785 87
Stores {General							48 15		29 99	5 93	27 16	31 25	142 48
Repairs {Material	132 40	105 00	8 20	444 07	1,104 69	1,669 42	897 62	184 80	456 27	43 34	413 23	198 12	5,657 16
Repairs {Wages	107 50	107 50	121 70	707 04	1,417 58							396 00	2,857 32
Rental of tugs						90 00	1,125 00					25 00	1,240 00
Contingencies			6 00		4 75	24 34	12 81	8 00	2 00	11 41	131 25	27 05	227 61
Total Expenses	239 90	212 50	135 90	1,164 55	3,311 32	5,233 05	4,482 93	3,588 12	4,018 06	3,955 55	5,071 97	2,865 41	34,279 26

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Tug *Canso*	May 25..	May 30..	Towing dredge and pontoons to Wallace.	153 90
				153 90

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Tug belonging to Pictou Co. Contractors Supply Co.	May 21..	& May 22	Towing pontoons from locks to Pictou Landing	40 00
S.S. *Hiawatha*	May 26..	& May 27	Moving pontoons from N. Glasgow to P. Landieg	50 00
Tug *Amherst*	May 25..	May 30..	Plant Pictou to Wallace	500 00
Tug *Amherst*	June 19..	June 24..	Plant Wallace to Pictou	600 00
S.S. *Hiawatha*	July 13..		Pictou to Trenton	25 00
S.S. *Hiawatha*	Nov. 24..		Trenton to Pictou	25 00
				1,240 00

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wallace, N. S.	1,169 09	920 00	90 00	360 94	.....	2 30	331 17	17 00	673 00	339 50	147 00	25 35	4,075 35
Pictou, N.S.	768 87	605 30	57 50	237 82	.....	1 50	217 98	11 10	442 62	223 60	97 00	19 22	2,682 51
Trenton, N.S.	7,888 50	6,213 40	604 50	2,432 90	.....	16 20	2,236 72	114 38	4,541 54	2,294 22	996 00	183 04	27,521 40
Totals	9,826 46	7,738 70	752 00	3,031 66	.....	20 00	2,785 87	142 48	5,657 16	2,857 32	1,240 00	227 61	34,279 26

Expenses Working at	Time Working.		Kind of Material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Wallace, N.S.	June 1.....	June 19.....	Hard clay, stones and oyster shells.....	19,444	310	158	25·793	0·209
Pictou, N.S.	June 21.....	July 12.....	Mud, gravel and stones..	33,212	300	104	25·793	0·081
Trenton, N.S.	July 13.....	Nov. 20.....	Gravel, sand, stones....	287,106	2,060	1,067	25,793	0·096
Totals				339,762	2,670	1,329	25·793	0·100

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Connecting Pontoons.	Tide and Current.	Holidays.	Pontoons.		Shifting Pontoons and Pipes.	Towing, etc.	Procuring	
							Putting on rubbers.	Aground.			Fuel.	Water.
Wallace, N.S.	11	13	.....	7	.....	.....	6	.....	6	10	95	.....
Pictou, N.S.	.....	7	15	65	.....	30	.....	.....	.....	46	.....	.....
Trenton, N.S.	169	43	24	32	83	40	22	.....	160	3	94	.....
								29				
Totals, hours	180	63	39	104	83	70	28	29	166	59	189	.....

Time Lost at	Cleaning.		Waiting on Engineers.	Crib Work not Ready.	Miscellaneous	Total.	Remarks.
	Plant.	Boilers.					
Wallace, N.S.	.....	3	.....	.....	1	152	Ck. No. 1179 June return for $1,000 charged to New Dredging Plant deducted from Dredging Maritime Provinces.
Pictou, N.S.	2	.....	9	.....	22	196	
Trenton, N.S.	10	40	3	195	46	993	
Totals, hours	12	43	12	195	69	1,341	

General Remarks: Dredge put into commission at Wallace, N.S., on June 1; laid up for season at Pictou, N.S., on Nov. 27, 1915.
The quantity of material removed at Trenton as found from surveys made before and after dredging=159,000 c.y. place mens.
The quantity of material removed at Pictou as found from surveys made before and after dredging=28,440 c.y. place measurement.

DREDGE, P.W.D. No. 6 ("CAPE BRETON"), PROVINCE OF NOVA SCOTIA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						1,000	15,570	16,125	6,223	20,960	9,795	870	70,543
Class of material						Clay and gravel.	Clay, sand and gravel.	Sand, hard clay and gravel.	Sand and hard clay.	Clay, rock, sand, gravel	Clay, rock, ledge rock.	Granite, slate, rock and sand.	
Total possible dredging time						36 00	281 00	264 00	259 00	261 00	260 00	268 00	1,629 00
Total time lost hrs						24 00	156 00	128 00	183 10	110 50	165 30	233 30	1,001 00
Hours actually dredging						12 00	125 00	136 00	75 50	150 10	94 30	34 30	628 00
C.yds. handled per hour						83 33	124 56	118 56	82 06	139 57	103 65	25 22	112 33

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Wages						1,015 14	1,180 01	968 08	1,190 34	1,235 67	1,045 73	1,625 04	8,260 01
Fuel, coal and oil					156 00	174 80	563 41	1,009 30	585 64	354 72	463 69	119 84	3,427 40
Water						12 50			36 73	53 03	10 00	42 50	154 76
Subsistence						358 84	416 03	325 70	399 50	392 11	340 77	518 35	2,751 30
Wharfage												88 00	88 00
Pilotage							4 00						4 00
Stores Machinery			103 45		144 73		71 98	7 90	244 67	112 45	41 01	44 51	770 70
Stores General	3 20		8 05				10 90	7 00	10 12	4 35		10 56	54 18
Repairs Material	123 83	224 84	748 28	265 43	1,006 98	2,584 29	61 85	709 61	579 88	236 63	65 16	60 00	6,666 78
Repairs Wages	215 02	306 75	275 27	569 99	1,076 55	195 03							2,638 61
Rental of tugs							12 50	1,712 00	858 00		1,683 00	449 68	4,715 18
Contingencies			1 66			14 15	46 65	12 11	3 75	4 17	8 90	69 42	160 81
Total Expenses	342 05	531 59	1,136 71	835 42	2,384 26	4,354 75	2,367 33	4,751 70	3,908 63	2,393 13	3,658 26	3,027 90	29,691 73

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Tug *Lisgar*	June 9	Sept. 11	Mabou, N.S	4,359 48
Tug *Lisgar*	Sept. 12	Nov. 5	Smith's Cove	3,859 80
Tug *Lisgar*	Nov. 25	Nov. 26	H. A. Smith's Wharf	254 13
Tug *Lisgar*	Nov. 27	Nov. 30	J. S. Smith's Wharf	123 40
Tug *Lisgar*	Dec. 1	Dec. 31	Canso, N.S	499 22
Tug *Fredericton*	Nov. 23	Dec. 31	Towing Port Hood to Canso	738 01
Tug *Sogenada*	Nov. 17	Nov. 23	Towing scow from Buctouche to Port Hood and injured scow back to Pictou	149 22

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
W. M. Weatherspoon"	June 9	Sept. 11	Mabou, N.S	2,488 20
Motor Boats	July 29		Towing dredge over sand bar, Mabou	12 50
W. M. Weatherspoon	Sept. 12	Nov. 15	Smith's Cove	2,214 48
				4,715 18

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material	Wages.			
Mabou Harbour, N.S.	3,718 10	1,642 37	74 24	1,318 43	.....	4 00	369 32	26 00	3,216 14	1,274 50	2,500 70	87 46	14,231 26
Smith Cove, N.S.	3,291 58	1,454 73	65 65	1,167 26	80 30	.....	327 00	23 45	2,808 00	1,109 50	2,214 48	58 15	12,600 10
H. A. Smith Wharf	361 38	95 50	4 00	76 69	5 30	.....	21 46	1 00	185 70	73 51	.....	2 84	827 38
J. S. Smith Wharf	176 29	46 50	2 39	36 49	2 40	.....	10 42	0 73	90 20	35 70	.....	0 73	401 85
Canso, N.S.	712 66	188 30	8 48	152 43	.....	.....	42 50	3 00	366 74	145 40	.....	11 63	1,631 14
Totals	8,260 01	3,427 40	154 76	2,751 30	88 00	4 00	770 70	54 18	6,666 78	2,638 61	4,715 18	160 81	29,691 73

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Mabou Harbour, N.S.	June 28	Sept. 11	Sand, hard clay and gravel	34,395	680	301	47·28	0·414
Smith Cove, N.S.	Sept. 13	Nov. 23	Rock, sand, gravel, hard clay	33,178	621	266 30	47·28	0·379
H. A. Smith Wharf	Nov. 24	Nov. 26	Sand, clay and rock	1,625	30	17 30	47·28	0·509
J. S. Smith Wharf	Nov. 27	Nov. 30	Ledge rock	475	30	8 30	47·28	0·846
Canso, N.S.	Dec. 1	Dec. 31	Granite, slate, rock and sand	870	268	34 30	47·28	1·875
Totals				70,543	1,629	628 00	47·28	0·420

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Mabou Harbour, N.S.	70 00	40 00	72 30	.....	97 00	20	21 30	.....	5	16	15
Smith's Cove, N.S.	59 00	18 30	161 00	.....	14 15	10	28 45	.....	.....	39	2
H. A. Smith's Wharf, N.S.	1 30	3 30	3 00	.....	.....	.....	3 30	.....	.....	.....	.....
J. S. Smith Wharf	.....	.....	10 00	.....	2 30	.....	.....	.....	.....	.....	.....
Canso, N.S.	11 00	6 30	55 00	.....	50 00	10	30 00	6	14	5	.....
Totals, hours	141 30	68 30	301 30	.....	163 45	40	54 15	6	19	60	17

Time Lost at	Cleaning.		Dismantling Dredge.	Rigging Dredge.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Mabou Harbour, N.S.	2 00	10	.....	.....	10 00	379 00	Tug *Lisgar* towing *Kinburn* to Pictou Sept. 21-22, 1½ days $150 charged for the tow.
Smith's Cove, N.S.	2 30	.....	.....	.....	19 30	354 30	
H. A. Smith's Wharf, N.S.	.....	.....	.....	.....	1 00	12 30	
J. S. Smith Wharf	.....	.....	.....	.....	9 00	21 30	
Canso, N.S.	3 00	.....	25	40	7 30	233 30	
Totals, hours	7 30	10	25	40	47	1,001 00	

General Remarks: Dredge put into commission at Mabou Harbour, on June 28; dredge still in commission, Dec. 31, 1915.

DREDGE, P.W.D. No. 7 ("CANADA"), PROVINCE OF NOVA SCOTIA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						5,600	24,780	23,200	18,800	15,200	16,600	9,100	113,280
Class of material						Mud & sand	Mud & sand	Mud & sand	Mud & sand	Mud & sand	Mud & sand	Mud & sand	
Total possible dredging time...hrs						60	270	260	260	254	266	170	1,540
Total time lost...hrs						13	72	67	114	123	129	93	611
Hours actually dredging						47	198	193	140	131	137	77	929
C.yds. handled per hour						119 15	125 15	120 21	128 77	116 03	121 17	118 18	121 93

Details of Expenditure by Months.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages						264 86	788 05	784 00	791 04	785 71	782 00	473 74	4,669 40
Fuel, coal and oil						247 50	445 50	.....	887 00	385 00	429 65	418 00	2,812 65
Water						.....	15 00	15 00	32 50	20 50	29 00	22 50	134 50
Subsistence						89 25	190 65	197 04	191 67	199 29	218 17	177 45	1,263 52
Wharfage						.....	5 34	20 00	20 00	20 00	40 00	.....	105 34
Pilotage						.....	.....	.....	.....	.....	.....	.....	.....
Stores {Machinery	350 92					128 73	7 30	95 42	46 08	29 25	86 85	26 00	770 61
Stores {General						.....	80	40	67	22 12	.....	12 88	36 87
Repairs {Material	22 40	44 80	103 00	562 27	3,499 85	1,730 17	51 54	3,060 56	13 66	105 50	71 32	807 09	11,520 66
Repairs {Wages	946 40	57 27	444 83										
	490 01	98 50	112 01	430 42	733 49	457 14	.....	.....	.....	.....	.....	232 46	2,571 52
	.....	11 55	5 94										
Rental of tugs						480 00	1,088 00	.....	2,156 00	1,020 00	1,040 00	1,040 00	6,824 00
Contingencies	4 25					11 00	2 60	1 20	201 70	1 50	1 00	1 50	224 75
Total Expenses	1,813 98	212 12	665 78	992 69	4,233 34	3,408 65	2,594 78	4,173 62	4,340 32	2,588 87	2,697 99	3,211 68	30,933 82

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Tug *Delbert D*	April 26	May 31	Towing dredge from Liverpool to Halifax and return for repairs	1,240 00
Tug *Delbert D*	June 22	Dec. 31	Lockport, N.S	6,824 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Lockeport, N.S.	4,669 40	2,812 65	134 50	1,263 52	105 34	.....	770 61	36 87	11,520 66	2,571 52	6,824 00	224 75	30,933 82
Totals	4,669 40	2,812 65	134 50	1,263 52	105 34	.....	770 61	36 87	11,520 66	2,571 52	6,824 00	224 75	30,933 82

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per cubic Yard.
	From	To						
Lockeport, N.S.	June 24	Dec. 20	Mud and sand	113,280	1,540	929	33·298	0·273
Totals				113,280	1,540	929	33·298	0·273

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Lockeport, N.S.	56	206	175	1	.....	30	.....	.....	7	56	13
Totals, hours	56	206	175	1	.....	30	.....	.....	7	56	13

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Lockeport, N.S.	.....	20	.....	.....	47	611	
Totals, hours	.....	20	.....	.....	47	611	

General Remarks: Dredge put into commission at Lockeport, N.S., on June 24; laid up for season at Liverpool, N.S., on Dec. 22, 1915. Large repairs were made to boiler, ladder, and bucket.

Charge of $1,240 was for tug hired to tow dredge from Liverpool to Halifax and return and is charged to repairs of dredge.

PRINCE EDWARD ISLAND.

DREDGE, P.W.D. No. 9 ("MONTAGUE"), PROVINCE OF PRINCE EDWARD ISLAND.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June	July.	August.	September	October.	November.	December	Total.
Cubic yards handled						8,200	6,900	8,600	9,100	12,800	13,000	7,900	66,500
Class of material						Sand, rock, brick clay.	Sand, rock, and clay.	Sand, clay, and stone.	Sand, mud, and rock.	Mud.	Mud.	Brick clay and rock.	
Total possible dredging time hrs						260 00	270 00	260 00	260 00	260 00	260 00	285 00	1,855 00
Total time lost hrs						163 45	180 30	127 30	140 00	123 00	126 30	147 00	1,008 15
Hours actually dredging						96 15	89 30	132 30	120 00	137 00	133 30	138 00	846 45
C.yds. handled per hour						85 19	77 09	64 90	75 83	93 43	97 37	57 25	78 53

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.
Wages						849 09	607 50	628 49	683 87	626 00	689 72	795 75	4,880 42
Fuel, coal and oil						218 78	67 10	479 87		71 35	597 35	250 80	1,685 25
Water							5 00	50 00	30 00	44 75	77 50		207 25
Subsistence						241 82	215 64	200 20	187 70	194 25	208 00	19 30	1,266 91
Wharfage			12 00										12 00
Pilotage													
Stores {Machinery	98 36					4 00	17 71	421 77	102 84	164 20	32 49		841 37
Stores {General							0 55	35 70	24 07	14 92	0 96		76 20
Repairs {Material	56 24	26 37	8 10		143 00	426 93	340 42	41 87	792 36	183 83	439 24	5 00	2,463 36
Repairs {Wages	150 99	105 50	109 69	305 51	941 66	12 00	260 48	498 99	50 87		61 11		2,496 80
Rental of tugs			200 00			435 00	650 00	675 00	675 00	1,250 00	675 00		4,550 00
Contingencies			53 00				15 54	3 50	5 55	4 50	7 10	5 00	94 19
Total expenses	305 59	131 87	382 79	305 51	1,084 66	2,177 62	2,179 94	3,035 39	2,552 26	2,553 80	2,788 47	1,075 85	18,573 75

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Tug *Sogenada*	Nov. 24	Dec. 1	Pictou to Georgetown and return	149 22

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Tug *Amherst*	Dec. 13	& 14, 1914	Towing dredge from Georgetown to Charlottetown	200 00
Tug *Pekin*	June 1	Oct. 12	Grand River	2,568 26
Tug *Pekin*	Oct. 13	Nov. 27	Bridgetown	1,072 80
Tug *Pekin*	Nov. 28	Dec. 15	Panmure Island	319 00
Tug *Pekin*	Dec 16	Dec. 31	Georgetown	389 94
				4,550 00

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Grand River, P.E.I.	2,880 50	994 60	122 33	747 75	7 00	.....	496 45	44 97	1,453 85	1,473 75	2,685 38	55 52	10,962 10
Bridgetown, P.E.I.	1,204 60	416 00	51 15	312 73	2 93	.....	207 74	18 81	608 05	616 18	1,123 10	23 26	4,584 55
Panmure Island, P.E.I.	357 32	123 40	15 17	92 80	0 87	.....	61 62	5 58	180 33	182 80	333 15	6 96	1,360 00
Georgetown, P.E.I.	438 00	151 25	18 60	113 63	1 20	.....	75 56	6 84	221 13	224 07	408 37	8 45	1,667 10
Totals	4,880 42	1,685 25	207 25	1,266 91	12 00	.....	811 37	76 20	2,463 36	2,496 80	4,550 00	94 19	18,573 75

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Grand River, P.E.I.	June 1	Oct. 12	Sand, clay, rock, mud and stone	37,600	1,150	499 45	21·935	0·291
Bridgetown, P.E.I.	Oct. 13	Nov. 27	Mud	21,000	400	209 00	21·935	0·218
Panmure Island, P.E.I.	Nov. 29	Dec. 15	Mud	4,900	150	62 00	21·935	0·277
Georgetown, P.E.I.	Dec. 16	Dec. 31	Brick clay and rock	3,000	155	76 00	21·935	0·555
Totals	.....	.....	.....	66,500	1,855	846 45	21·935	0·279

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Grand River, P.E.I.	118 00	.....	64 30	4 00	1 00	40 00	174 00	.....	119 00	9 45	.....
Bridgetown, P.E.I.	25 00	5 15	25 00	3 00	.....	.....	31 45	.....	13 00	37 00	.....
Panmure Island, P.E.I.	7 00	4 00	41 00	.....	.....	.....	10 00	.....	.....	7 00	2 00
Georgetown, P.E.I.	14 00	4 00	.....	.....	.....	.....	.....	45 00	.....	.....	.....
Totals, hours	164 00	13 15	130 30	7 00	1 00	40 00	215 45	45 00	132 00	53 45	2 00

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous	Total.	Remarks.
	Plant.	Boilers.					
Grand River, P.E.I.	9 00	.....	20 00	.....	91 00	650 15	An account for tug services for $200 and one for wharfage for $12, were contracted in 1914.
Bridgetown, P.E.I.	3 00	.....	.....	.....	48 00	191 00	
Panmure Island, P.E.I.	.....	.....	.....	.....	17 00	88 00	
Georgetown, P.E.I.	.....	.....	.....	.....	16 00	79 00	
Totals, hours	12 00	.....	20 00	.....	172 00	1,008 15	

General Remarks: Dredge put into commission at Grand River, on June 1; dredge working on Dec. 31, 1915.

DREDGE, P.W.D. No. 10 ("PRINCE EDWARD"), PROVINCE OF PRINCE EDWARD ISLAND.

Details of Material and Time by Months.

Total.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						2,775	2,600	7 425	5,850	3,400	7,050	1,200	30,300
Class of material						Mud and piles.	Mud and piles.	Mud and timber.	Mud, timber stone & clay	Mud, clay and rock.	Mud, clay and rocks	Mud, clay and rocks.	
Total possible dredging time hrs						130 00	306 00	264 00	260 00	260 00	260 00	115 00	1,595 00
Total time lost hrs						51 00	237 00	63 00	147 00	166 00	89 00	77 00	830 00
Hours actually dredging						79 00	69 00	201 00	113 00	94 00	171 00	38 00	765 00
C.yds. handled per hour						35·13	37·68	36·94	51 77	36·17	41·23	31·58	39·61

Details of Expenditure by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages						251 96	228 05	551 01	505 99	524 94	511 66	458 66	3,032 27
Fuel, coal and oil							48 89					397 27	446 16
Water	3 00						6 98			25 50	3 98	63 88	103 34
Subsistence	0 40					82 00	84 59	228 67	169 94	169 43	170 69	156 44	1,062 16
Wharfage													
Pilotage													
Stores (Machinery		3 24							23 94	293 50	244 59	78 90	644 17
Stores (General								0 41	1 53			1 95	3 89
Repairs (Material	9 74	356 51	171 83		99 75	308 57	157 21	121 53	16 77	500 00	600 67		2,342 58
Repairs (Wages	97 50	109 50	119 33	193 58	467 10	267 96	372 98			72 12		176 32	1,876 39
Rental of tugs			300 00				350 00	650 00	1,275 00		1,275 00		3,850 00
Contingencies	28 88								4 35				33 23
Total expenses	139 52	469 25	591 16	193 58	566 85	910 49	1,248 70	1,551 62	1,997 52	1,585 49	2,806 59	1,333 42	13,394 19

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Tug *F. M. Batt*	June 15	July 5	Charlottetown Ferry Wharf	450 00
Tug *Islander*	July 6	Sept. 3	Charlottetown, Pownal Wharf	1,220 00
Tug *F. M. Batt*	Sept. 4	Sept. 14	Charlottetown, McEachern's Wharf	230 00
Tug *F. M. Batt*	Sept. 15	Oct. 16	Charlottetown, North River Wharf	472 00
Tug *F. M. Batt*	Oct. 18	Nov. 13	Charlottetown, Franklin Pt. Wharf	565 00
Tug *F. M. Batt*	Nov. 15	Dec. 9	Charlottetown, Railway, Wharf	560 00
Tug *F. M. Batt*	Dec. 10	Dec. 13	Charlottetown, M. P. Hogan's Wharf	53 00
Tug *Amherst*	Dec. 14	Dec. 16, 1914	Shifting plant, Crapaud to Charlottetown	300 00
				3,850 00

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Charlottetown, Ferry Wharf	384 51	56 65	13 10	134 73	.....	.....	81 57	0 50	297 05	237 95	488 00	4 29	1,698 35
Charlottetown, Pownal Wharf	1,042 36	153 31	35 50	365 47	.....	.....	221 45	1 32	805 35	645 15	1,323 00	11 89	4,604 80
Charlottetown, McEachern's Wharf	190 32	28 00	6 50	66 62	.....	.....	40 42	0 25	140 70	117 75	241 60	1 96	840 42
Charlottetown, North River Wharf	404 32	59 50	13 78	141 60	.....	.....	85 88	0 52	312 34	250 22	513 50	4 23	1,785 89
Charlottetown, Franklin Wharf	483 58	71 14	16 48	169 40	.....	.....	102 75	0 62	373 58	299 28	614 00	5 24	2,136 07
Charlottetown, Railway Wharf	479 62	70 54	16 35	168 00	.....	.....	101 90	0 61	370 52	296 81	609 40	4 81	2,118 56
Charlottetown, M. P. Hogan's Wharf	47 56	7 02	1 63	16 34	.....	.....	10 20	0 07	36 74	29 23	60 50	0 81	210 10
Totals	3,032 27	446 16	103 34	1,062 16	.....	.....	644 17	3 89	2,342 58	1,876 39	3,850 00	33 23	13,394 19

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Charlottetown, Ferry Wharf	June 16	July 5	Mud and piles	3,425	170	97	17·509	0·496
Charlottetown, Pownal Wharf	July 6	Sept. 3	Mud and timber	9,775	560	263	17·509	0·471
Charlottetown, McEachern's Wharf	Sept. 4	Sept. 14	Mud and timber	2,600	90	48	17·509	0·323
Charlottetown, North River Wharf	Sept. 15	Oct. 16	Mud, rock and stones	4,650	280	102	17·509	0·384
Charlottetown, Franklin Wharf	Oct. 18	Nov. 13	Clay, rock, mud	4,250	240	122	17·509	0·502
Charlottetown, Railway Wharf	Nov. 15	Dec. 9	Mud	5,350	220	121	17·509	0·396
Charlottetown, M. P. Hogan's Wharf	Dec. 10	Dec. 13	Rock and brick clay	250	35	12	17·509	0·840
Totals	.....	.....	.....	30,300	1,595	765	17·509	0·442

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Charlottetown, Ferry Wharf	2	.....	6	.....	31	10	1	12	.....	.....	.....
Charlottetown, Pownal Wharf	258	4	16	.....	.....	.....	.....	.....	.....	12	.....
Charlottetown, McEachern's Wharf	3	.....	.....	.....	10	10	.....	.....	16	3	.....
Charlottetown, North River Wharf	29	4	22	.....	53	10	.....	.....	17	9	3
Charlottetown, Franklyn Wharf	69	.....	22	.....	13	.....	.....	.....	6	4	.....
Charlottetown, Railway Wharf	6	4	51	.....	4	.....	1	3	4	9	2
Charlottetown, M. P. Hogan's Wharf	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, hours	367	14	117	.....	111	30	2	15	43	37	5

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Charlottetown, Ferry Wharf	.....	.....	10	.....	1	73	Amount of $323.46 paid by Mr. Bartram for assisting his dredge in July. Account for towage for $300 for Tug *Amherst* was incurred in 1914, for plant to lay up for winter.
Charlottetown, Pownal Wharf	5	.....	.....	.....	2	297	
Charlottetown, McEachern's Wharf	.....	.....	.....	.....	.....	42	
Charlottetown, North River Wharf	.....	.....	10	.....	21	178	
Charlottetown, Franklyn Wharf	.....	.....	.....	.....	4	118	
Charlottetown, Railway Wharf	.....	.....	.....	.....	15	99	
Charlottetown, M. P. Hogan's Wharf	.....	.....	.....	.....	21	23	
Totals, hours	5	.....	20	.....	64	830	

General Remarks: Dredge put into commission at Charlottetown, P.E.I., on June 15; laid up for season at Charlottetown on Dec. 18, 1915. The lost time for repairs while dredge was working at Pownal Wharf was due to the dredge losing crane, bucket and arm while assisting Mr. Bartram's dredge *Edmund Hull*, Saturday, July 10 repairing at Marine Dock, Charlottetown until July 28th.

DREDGE, P.W.D. No. 11 ("POWNAL"), PROVINCE OF PRINCE EDWARD ISLAND.

Details of Material and Time by Months.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled					3,262	8,048	5,925	5,600	4,250	6,175	4,175	1,150	38,585
Class of material					Mud and sand.	Sand, shells, clay & mud	Mud, sand, clay.	Sand, shells, clay.	Sand, mud, clay.	Sand, mud, clay.	Sand, mud, clay.	Sand, mud, clay.	
Total possible dredging time.....hrs					190 00	260 00	270 00	260 00	260 00	260 00	260 00	50 00	1,810 00
Total lost time hrs					92 30	24 15	79 00	98 00	115 30	59 30	125 30	18 30	612 45
Hours actually dredging					97 30	235 45	191 00	162 00	144 30	200 30	134 30	31 30	1,197 15
C.yds handled per hour					33 45	34 14	31 02	34 57	29 44	30 80	31 04	36 51	32 23

Details of Expenditure by Months.

Items of Expense.	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts.	$ cts
Wages					256 30	414 00	405 00	425 00	410 00	405 00	409 90	79 83	2,805 03
Fuel, coal and oil							386 54	463 10	6 00				855 64
Water						13 00	36 50		10 00	28 50	30 00		118 00
Subsistence					88 00	146 80	202 73	147 55	146 74	139 50	141 21	30 44	1,043 00
Wharfage													
Pilotage													
Stores {Machinery					322 73		13 60	14 47	14 25		141 08	32 75	538 88
Stores {General										2 36			2 36
Repairs {Material	43 70	110 20	30 20	31 25	76 79	53 56	6 00	7 85	18 02	15 25	52 47	65 50	510 79
Repairs {Wages	99 35	95 00	95 00	154 16	122 50							248 28	814 29
Rental of tugs			600 00			89 00	656 00	1,136 00	554 00	700 00	700 00	733 00	5,168 00
Contingencies	7 60					57 00	13 32		11 75	21 41	14 55	10 90	136 53
Total Expenses	150 65	205 20	725 20	185 41	866 32	773 36	1,719 69	2,193 97	1,170 76	1,312 02	1,489 24	1,200 70	11,992 52

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed.. From	To	Locality.	Expenses. $ cts.

Rented Tugs.

Name of Tug.	Employed. From	To	Locality.	Expenses. $ cts.
Tug *Amherst*	Oct. 28..	Nov. 3, 1914	Towing dredge from Charlottetown to Malpeque	600 00
Motor boats	May 10..		Towing dredge Malpeque to Darnley.	94 00
Tug *Victor*	May 15..	Aug. 14	Darnley, P.E.I	1,905 00
Tug Islander	May 10	June 3..	Scows from Buctouche to Malpeque	720 00
Motor boat	Aug. 19,20	& Sept. 1.	Darnley Basin to Keirs Wharf	42 00
Tug *Islander*	Aug. 23..	Dec. 6..	Malpeque, P.E.I	1,807 00
				5,168 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.
Darnley, P. E.I	1,448 03	441 04	61 00	538 66	.....	.....	278 34	1 23	263 87	420 51	2,668 85	71 32	6,192 85
Malpeque, P.E.I	1 357 00	414 60	57 00	504 34	.....	.....	260 54	1 13	246 92	393 78	2,499 15	65 21	5,799 67
Totals	2,805 03	855 64	118 00	1,043 00	.....	.....	538 88	2 36	510 79	814 29	5,168 00	136 53	11,992 52

Expenses Working at	Time Working.		Kiad of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Darnley, P.E.I	May 10	Aug. 14	Mud, sand, oyster shell, clay	20,685	840	618 15	10·017	0·299
Malpeque, P.E.I	Aug. 16	Dec. 6	Brick clay, sand and mud	17,900	970	579 00	10·017	0·324
Totals	.....	.....	.....	38,585	1,810	1,197 15	10·017	0·311

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Ordors.		Fuel.	Water.
Darnley, P.E.I	41 30	13 00	37 00	4 30	5 00	20 00	13 00	5 00	10 00	26 30	30 30
Malpeque, P.E.I	82 30	18 00	155 30	12 00	.....	20 00	.....	10 00	10 00	22 00	13 00
Totals, hours	124 00	31 00	192 30	16 30	5 00	40 00	13 00	15 00	20 00	48 30	43 30

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Darnley, P.E.I	.....	.....	.....	.....	15 45	221 45	Tug *Amherst* employed in 1914, $600.
Malpeque, P.E.I	.....	.....	16 00	.....	32 00	391 00	
Totals, hours	.....	.....	16 00	.....	47 45	612 45	

General Remarks: Dredge put in commission at Darnley, P.E.I., on May 10; laid up for season at Malpeque, P.E.I., on Dec. 7, 1915.

NEW BRUNSWICK.

DREDGE, P.W.D. No. 12, PROVINCE OF NEW BRUNSWICK.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						12,942	21,677	10,882	17,067	17,779	6,115		86,462
Class of material						Sand.	Sand.	Sand.	Sand.	Sand.	Sand.		
Total possible dredging time.....hrs						190 00	270 00	260 00	260 00	260 00	90 00		1,330 00
Total time lost.....hrs						77 00	94 00	121 00	93 30	59 30	34 30		479 30
Hours actually dredging						113 00	176 00	139 00	166 30	200 30	55 30		850 30
C.yds. handled per hour						114 53	123 08	78 29	146 50	88 67	110 18		101 66

Details of Expenditure by Months.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages						645 00	650 00	650 00	650 00	650 00	205 80		3,450 80
Fuel, coal and oil						841 75	539 31		1,100 94	680 36	443 70	2 50	3,608 56
Water													
Subsistence	10 31					197 90	218 56	205 40	201 87	215 30	55 96	21 74	1,127 04
Wharfage													
Pilotage													
Stores {Machinery	0 68					395 72	210 24	1,031 75	78 76	842 49	31 83	9 76	2,604 23
Stores {General	2 40						41 75		17 81	2 00		9 64	73 60
Repairs {Material	379 95		1,193 04	436 18	1,371 64	664 04					176 01	58 63	4,280 39
Repairs {Wages	100 00	100 00	106 77	314 01	535 33						411 62	202 99	1,770 72
Rental of tugs							40 00		495 00	240 00	110 00		885 00
Contingencies	0 30					8 00	2 15	0 85	2 20	2 80		2 55	18 85
Total Expenses	493 64	100 00	106 77	1,507 05	971 51	3,460 01	2,366 05	1,891 00	2,546 58	2,632 95	1,435 82	307 81	17,819 19

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	$ cts.

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
	May 22..	.....	Oromocto to Hampstead	20 00
Tug *Nereid*	June 3..	.....	Indiantown to Spoon Island	40 00
Annie Currier	June 3..	.....	Pontoons Oromocto to Hampstead	25 00
Annie Currier	Aug. 24 &	25	Hampstead to Oromocto	70 00
Smith Bros	Sept. 6..	Oct. 16 & Nov. 18	Oromocto	640 00
			Oromocto to Indiantown	90 00
				885 00

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Dykeman's Shoals, N.B.	1,683 80	1,760 80	.....	549 86	.....	.....	1,269 23	36 15	2,088 00	864 20	434 00	8 85	8,694 89
Oromocto, N.B.	1,767 00	1,847 76	.....	577 18	.....	.....	1,335 00	37 45	2,192 39	906 52	451 00	10 00	9,124 30
Totals	3,450 80	3,608 56	.....	1,127 04	.....	.....	2,604 23	73 60	4,280 39	1,770 72	885 00	18 85	17,819 19

Expenses Working at	Time Working.		Kind of Material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Dykeman's Shoals, N.B.	June 9	Aug. 21	Sand	44,238	640	415 00	20·951	0·196
Oromocto, N.B.	Aug. 23	Nov. 10	Sand	42,224	690	435 30	20·951	0·216
Totals	.....	.....	.....	86,462	1,330	850 30	20·951	0·206

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Engineers.		Fuel.	Shifting Wires.
Dykeman's Shoals, N.B.	14 30	24 30	9 00	.....	10 00	10 00	.....	6 00	.....	.....	36 30
Oromocto, N.B.	1 30	42 00	9 00	.....	3 00	20 00	.....	.....	10 00	.....	19 00
Totals, hours	16 00	66 30	18 00	.....	13 00	30 00	.....	6 00	10 00	.....	55 30

Time Lost at	Cleaning.		Moving Land Pipes and Pontoons.	Putting on Rubbers.	Miscellaneous	Total.	Remarks.
	Plant.	Boilers.					
Dykeman's Shoals, N.B.	10 00	1 30	85 00	14 00	4 00	225 00	
Oromocto, N.B.	10 00	10 00	58 30	6 30	65 00	254 30	
Totals, hours	20 00	11 30	143 30	20 30	69 00	479 30	

General Remarks: Dredge put into commission at Dykeman's Shoals on June 8; laid up for season at Indiantown on Nov. 18, 1915. The quantity of material removed at Dykeman's Shoal as found by surveys made before and after dredging=33,045 c.y., place measure. The quantity of material removed at Oromocto Shoal as found by surveys made before and after dredging =27,217 c.y. place measure.

DREDGE, P.W.D. No. 13, PROVINCE OF NEW BRUNSWICK.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total
Cubic yards handled						2,413	14,068	10,898	8,308	16,388	7,430		59,505
Class of material						Rock, clay and sand.	Rock, clay, sand, mud	Rock, clay, sand, mud	Rock, clay, sand, mud	Rock, clay, sand, mud	Rock, clay sand, mud		
Total possible dredging time hrs						150 00	270 00	260 00	260 00	260 00	130 00		1,330 00
Total time lost hrs						110 30	123 00	138 30	182 30	125 30	82 00		762 00
Hours actually dredging						39 30	147 00	121 30	77 30	134 30	48 00		568 00
C.yds. handled per hour						61 08	95 70	89 69	107 20	121 84	154 79		104 76

Details of Expenditure by Months.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.
Wages					264 00	740 01	988 19	970 00	970 00	970 00	477 80	35 38	5,415 38
Fuel, coal and oil					135 63	395 20	473 20		562 90	933 40	250 16	49 50	2,799 99
Water					10 00	71 90	96 50	20 00	89 25	265 50	59 00	2 00	614 15
Subsistence					83 00	251 71	320 17	316 75	303 02	316 80	147 40		1,738 85
Wharfage												15 00	15 00
Pilotage													
Stores Machinery			13 90			34 18	643 74	57 92	719 28	167 20	226 62	82 03	1,944 87
Stores General						0 60	3 08	7 80	1 07	14 35	6 65	0 33	113 58
Stores Material			79 70				65 02		67 33	464 98	117 37	41 37	3,869 15
Repairs	17 85	21 09	47 90	329 95	427 60	1,519 57	749 12						
Repairs Wages	107 50	115 64	118 76	309 69	539 10	230 00	15 56		2 50		267 23	228 43	1,934 41
Rental of tugs							37 50	299 00	287 50	287 50	161 00		1,072 50
Contingencies			13 07			3 50	9 71	1 84	1 25	2 94	12 91	55 90	101 12
Total Expenses	125 35	136 73	273 33	639 64	1,459 33	3,246 67	3,401 79	1,673 31	3,004 10	3,422 67	1,726 14	509 94	19,619 00

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Tug *Sogenada*	May 11	Nov. 16	Buctouche, N.B.	5,245 36

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Tug *Maggie M*	July 19	July 24	Buctouche, N.B.	37 50
Sea Foam	Aug. 1	Nov. 16	Buctouche, N.B.	1,035 00
				1,072 50

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts.	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.
Buctouche, N.B	5,415 38	2,799 99	614 15	1,738 85	15 00	.....	1,944 87	113 58	3,869 15	1,934 41	1,072 50	101 12	19,619 00
Totals	5,415 38	2,799 99	614 15	1,738 85	15 00	.....	1,944 87	113 58	3,869 15	1,934 41	1,072 50	101 12	19,619 00

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Buctouche, N.B	June 14	Nov. 15.....	Rock, clay, sand and mud.....	59,505	1,330	568	34·540	0·329
Totals	.....	.....	.....	59,505	1,330	568	34·540	0·329

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Buctouche, N.B	133 30	4 00	405 00	12 00	.....	30 00	.....	.....	129 30	10 30	2 00
Totals, hours	133 30	4 00	405 00	12 00	.....	30 00	.....	.....	129 30	10 30	2 00

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Buctouche, N.B	.....	.....	20 00	.....	16 30	762	
Totals, hours	.....	.....	20 00	.....	16 30	762	

General Remarks: Dredge put into commission at Buctouche, N.B., on June 14; laid up for season at Buctouche, N.B., on Nov. 16, 1915. Rock removed was in part broken previously by Lobnitz Rock Breaker No. 3, latterly dredge removed the rock being a shallow layer sandstone, without previous breaking.

DREDGE, P.W.D. No. 14, PROVINCE OF NOVA SCOTIA.

Details of Material and Time by Months.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled					80	1,680	3,310	3,780	3,340	3,600	2,640		18,430
Class of material					Soft mud.	Soft mud	Hard mud.	Hard mud.	Hard mud.	Hard mud.	Hard mud.		
Total possible dredging time hrs					10 00	260 00	270 00	260 00	260 00	260 00	240 00		1,560 00
Total time lost hrs					7 00	175 30	167 00	163 00	182 00	178 00	169 00		1,041 30
Hours actually dredging					3 00	84 30	103 00	97 00	78 00	82 00	71 00		518 30
C yds handled per hour					26·66	19·88	32·13	38·96	42·82	43·90	37·18		35·54

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts.
Wages						419 33	410 00	410 00	410 00	410 00	347 90		2,407 23
Fuel, coal and oil						64 98		131 61		124 02	125 46		446 07
Water								33 25			71 24		104 49
Subsistence						71 50	124 00	124 00	120 00	124 00	101 50		665 00
Wharfage													
Pilotage													
Stores—Machinery						22 42	15 68	21 64	72 79	0 65	30 32	26 42	189 92
Stores—General									2 00				2 00
Repairs—Material			25 50	662 34	117 57	213 68	11 90		35 97	23 69	37 50	44 17	1,172 32
Repairs—Wages	87 50	87 50	87 50	333 61	457 74	115 00					62 10	211 69	1,442 64
Rental of Tugs													
Contingencies					8 00	3 82	13 40		37 00			8 15	70 3
Total Expenses	87 50	87 50	113 00	995 95	583 31	910 73	574 98	720 50	677.76	682 36	776 02	290 43	6,500 04

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality	Expenses. $ cts	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Mable Reid	May 31	Nov. 27	Amherst, N.S	2,771 13					

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.
Amherst, N.S	2,407 23	446 07	104 49	665 00	.....	.....	189 92	2 00	1,172 32	1,442 64	.....	70 37	6,500 04
Totals	2,407 23	446 07	104 49	665 00	.....	.....	189 92	2 00	1,172 32	1,442 64	.....	70 37	6,500 04

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
Amherst, N.S	May 31	Nov. 27	Soft mud and hard mud	18,430	1,560	518 30	12·536	0·352
Totals	.....	.....	.....	18,430	1,560	518 30	12·536	0·352

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Amherst, N.S	121	178	207	.....	362	30	13	.....	27	20	35
Totals, hours	121	178	207	.....	362	30	13	.....	27	20	35

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers					
Amherst, N.S	29 30	11	.....	.....	8	1,041 30	
Totals, hours	29 30	11	.....	.....	8	1,041 30	

General Remarks: Dredge put into commission at Amherst, N.S., on May 31; laid up for Season at Amherst, N.S., on Nov. 28, 1915.

DREDGE, P.W.D. ("LORNITZ No. 3"), PROVINCE OF NOVA SCOTIA.

Details of Material and Time by Months.

	January.	February	March.	April.	May.	June	July.	August.	September	October.	November.	December.	Total.
Cubic yards handled	3,850	2,542	3,660	6,081	1,200	3,792	4,497	236	730	1,599	72	7,536	35,795
Class of material	Rock.	Rock.	Rock.	Rock.	Rock.	Rock.	Rock.	Granite rock.	Granite rock	Rock.	Rock.	Rock.	....
Total possible dredging time hrs	260 00	240 00	270 00	260 00	260 00	260 00	270 00	260 00	260 00	260 00	260 00	270 00	3,130 00
Total time lost hrs	100 15	153 00	153 05	134 25	242 00	157 00	180 40	198 30	122 10	136 15	259 00	114 05	1,950 25
Hours actually dredging	159 45	87 00	116 55	125 35	18 00	103 00	89 20	61 30	137 50	123 45	1 00	155 55	1,179 35
C. yds. handled per hour	24·100	29·218	31·303	48·49	66·66	36·81	50·34	3·83	5·30	12·11	72·00	48·33	30·35

Details of Expenditures by Months.

Items of Expense.		$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.
Wages		425 00	425 00	425 00	408 33	329 00	425 00	425 00	287 99	425 00	425 00	801 82	425 00	5 227 05
Fuel, coal and oil		373 39	.....	482 72	.....	327 78	208 00	.....	948 92	55 19	.....	228 34	.....	2,624 34
Water		15 00	20 00	32 50	7 50	15 00	32 50	.....	19 30	18 75	.....	29 00	22 50	242 05
Subsistence		139 50	99 00	148 85	132 50	108 00	139 05	139 50	100 00	138 48	139 83	242 88	'143 00	1,670 59
Wharfage		15 00	.....	36 00	.....	9 00	.....	.....	.....	.....	.....	.....	.....	60 00
Pilotage		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stores	Machinery	36 88	.....	78 20	1,051 00	51 13	72 09	126 94	316 69	.....	414 96	1,969 65	.....	4,117 54
	General	.....	22 60	6 75	.....	15 32	3 00	43 00	2 65	19 62	.....	10 58	.....	123 52
Repairs	Material	51 87	27 00	32 48	.....	37 41	90 08	147 96	622 29	5 92	144 93	81 64	.....	1,241 58
	Wages	.....	.....	.....	.....	96 00	.....	.....	137 10	.....	.....	.....	.....	233 10
Rental of tugs		.....	10 00	10 00	.....	1,100 00	877 50	845 00	.....	1,449 22	812 50	715 00	.....	5,819 22
Contingencies		.....	2 82	1 85	.....	13 15	13 74	.....	9 68	.....	.....	.....	.....	41 24
Total expenses		1,056 64	606 42	1,254 35	1,599 33	2,101 79	1,860 96	1,727 40	2,474 53	2,112 18	1,937 22	4,078 91	590 50	21,400 23

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Tug *Lisgar*	Nov. 6.	Nov. 24.	Towing plant from Canso to Lunenburg	812 58

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
S.S. *Mascotte*	Dec. 18 & Feb. 13.	24 Feb. 22.	Lunenburg, N.S	20 00
S.S. *Reliable*	May 13.	May 24.	Lunenburg to Buctouche	1,100 00
Tug *Maggie M*	Oct. 27.	Dec. 31	Lunenburg, N.S	2,166 30
Tug *Maggie M*	May 10.	July 25.	Buctouche, N.B.	654 20
Tug *Amherst*	July 30.	Aug. 1.	Buctouche to Pictou	285 00
Tug *Amherst*	Aug. 10	Aug. 13.	Pictou to Canso	286 72
Tug *Maggie M*	July 25.	Oct. 26.	Canso, N.S	1,307 00
				5,819 22

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Lunenburg, N.S.	2,943 26	1,477 77	136 40	929 80	33 86	.....	2,318 00	69 47	699 08	131 10	3,286 30	24 43	12,049 47
Buctouche, N.B.	852 35	427 95	39 38	283 00	10 00	.....	671 80	20 50	202 50	38 00	939 20	4 75	3,489 43
Canso, N.S.	1,431 44	718 62	66 27	457 79	16 14	.....	1,127 74	33 55	340 00	64 00	1,593 72	12 06	5,861 33
Totals	5,227 05	2,624 34	242 05	1,670 59	60 00	.....	4,117 54	123,52	1,241 58	233 10	5,819 22	41 24	21,400 23

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Lunenburg, N.S.	Jan. 1	May 8	Rock	24,941	1,670	664 10	18·142	0·483
	Oct. 27	Dec. 31						
Buctouche, N.B.	May 10	July 25	Rock	8,289	660	192 20	18·142	0·421
Canso, N.S.	July 26	Oct. 26	Hard granite rock	2,565	800	323 05	18·142	2·285
Totals				35,795	3,130	1,179 35	18·142	0·598

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Traffic and Dredge.		Fuel.	Water.
Lunenburg, N.S.	198 45	47 20	156 40	1 30	32 00	30 00	4 00	45 05	193 00	73 20	8 00
Buctouche, N.B.	110 25	3 00	119 00	6 00	.....	20 00	.....	40 00	130 00	5 00	.....
Canso, N.S.	179 45	1 00	77 05	9 35	.....	20 00	.....	4 00	76 30	32 25	.....
Totals, hours	488 55	51 20	352 45	17 05	32 00	70 00	4 00	89 05	399 30	110 45	8 00

Time Lost at	Cleaning.		Shifting Anchors and Wires.	Getting ready for work.	Miscellaneous.	Total.	Remarks.
	Account of darkness.	Inspecting Boilers.					
Lunenburg, N.S.	14 45	25 00	135 55	30 00	10 30	1,005 50	Work not complete at end of December.
Buctouche, N.B.	.....	.....	34 15	.....	.....	467 40	
Canso, N.S.	.....	10 00	24 20	.....	42 15	476 55	
Totals, hour	14 45	35 00	194 30	30 00	52 45	1,950 25	

General Remarks: Dredge at work from Jan. 1, to Dec. 31. The most of the lost time due to repairs was caused by breaking of cables.

DREDGE, P.W.D. ("STONELIFTER No. 1"), PROVINCE OF NEW BRUNSWICK

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						A class	50·79	128·53	48·20				227·52
						B class	4·35	20·87	23·61	7·66			56·49
Class of material							55·14 Rock.	149·40 Boulders.	71·81 Boulders.	Boulders.			284 01
Total possible dredging time hrs							60 00	260 00	260 00	80 00			660 00
Total time lost hrs.							39 00	164 00	181 00	65 00			449 00
Hours actually dredging							21 00	96 00	79 00	15 00			211 00
C.yds. handled per hour							2·62	1·55	0·91	0·51			1·346

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts.
Wages	50 00	50 00	50 0	50 00	50 00	50 00	65 79	262 91	260 84	194 47	50 00	50 00	1,184 01
Fuel, coal and oil								41 69	110 49				152 18
Water								4 00					4 00
Subsistence								259 09	179 97	70 30	2 65		512 01
Wharfage	62 00	28 00	31 00	30 00		61 00		23 00			43 00		278 00
Pilotage													
Stores Machinery								178 55	526 37	55 81	14 00		774 73
Stores General						1 20		5 50	5 65	3 70	5 33		21 38
Repairs Material		12 61					4 00	9 00	106 65	53 19	30 66		216 11
Repairs Wages							73 84	20 00					93 84
Rental of tugs													
Contingencies									3 90	2 25			6 15
Total Expenses	112 00	90 61	81 00	80 00	50 00	112 20	143 63	803 74	1,193 87	379 72	145 64	50 00	3,242 41

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence	Wharfage.	Pilotage	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
St John Channel, N.B	1, 84 01	152 18	4 00	512 01	278 00		774 73	21 38	216 11	93 84		6 15	3,242 41
Totals	1,184 01	152 18	4 00	512 01	278 00		774 73	21 38	216 11	93 84		6 15	3,242 41

Expenses Working at	Time Working. From	Time Working. To	Kind of material.	No. C. Yds Moved	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
St. John Channel, N.B	July 26	Oct. 9	Rock and boulders	A 227·52 B 56·49	660	211	15 37	11·42
Totals				284·01	660	211	15 37	11·42

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on Scows, tugs.	Waiting on Orders.	Towing, etc.	Procuring Fuel.	Procuring Water
St. John Channel, N.B	52	106	50	24	138	20		30	10	1	16
Totals, hours	52	106	50	24	138	20		30	10	1	16

Time Lost at	Cleaning. Plant.	Cleaning. Boilers	Inspecting Boilers	Short Supplies.	Miscellaneous.	Total.	Remarks.
St. John Channel, N.B					2	449	
Totals, hours					2	449	

General Remarks: At St. John, N.B., from July 26 to Oct. 9, 1915. $2,393 07 of the above was deducted from final estimate of Maritime Dredging & Const. Co., Ltd., in their contract dredging in the foul grounds St. John Harbour, N.B.

DREDGE, P.W.D. ("BEACON BAR"), PROVINCE OF NOVA SCOTIA.

Details of Material and Time by Months.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total
Cubic yards handled			10,600	10,000	2,600								23,200
Class of material			Hard pan and rock.	Hard pan and rock.	Hard pan rock & mud								
Total possible dredging time			21 00	260 00	70 00								550 00
Total time lost			34 00	41 30	17 30								93 00
Hours actually dredging			176 00	218 30	52 30								447 00
C.yds.handled per hour			60 23	45 76	49 52								51 90

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.
Wages		248 54	578 00	545 00	179 90								1,551 44
Fuel, coal and oil		41 25	281 73	155 16	83 30								561 44
Water		17 50	20 00	38 00									75 50
Subsistence		64 50	133 50	121 80	41 00								360 80
Wharfage													
Pilotage		10 00											10 00
Stores—Machinery		38 39	226 44	1 72									266 55
Stores—General				27 52									27 52
Repairs—Materinl			20 39										20 39
Repairs—Hire dredge			880 00	4,240 00	640 00								5,760 00
Towing dredge			950 00			243 75							1,193 75
Contingencies			3 39	2 00									5 39
Total Expenses		420 18	3,093 45	5,131 20	944 20	243 75							9,832 78

Details of Tug Service—Tugs in attendance and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts					$ cts.
Tug *Sagonada*	Feb 11	May 10	Lunenburg, N.S	2,495 13					

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage	Stores.		Repairs.		Towing Dredge.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Hire Dredge.			
	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Lunenburg, N.S.	1,551 44	561 44	75 50	360 80	.....	10 00	266 55	27 52	20 39	5,760 00	1,193 75	5 39	9,832 78
Totals	1,551 44	561 44	75 50	360 80	.....	10 00	266 55	27 52	20 39	5,760 00	1,193 75	5 39	9,832 78

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Lunenburg, N.S.	Mar. 8	May 8	Hard pan, rock and mud	23,200	540 00	447 00	22·00	0·424
Totals				23,200	540 00	447 00	22·00	0·424

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Lunenburg, N.S.	34 30	12 30	4 00	.....	.....	.....	.....	.....	15 30	23 00	.....
Totals, hours	34 30	12 30	4 00	.....	.....	.....	.....	.....	15 30	23 00	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers					
Lunenburg, N.S.	.....	.....	.....	.....	3 30	93 00	
Totals, hours	.....	.....	.....	.....	3 30	93 00	

General Remarks: Dredge put into commission at Lunenburg, N.S. on March 8;

DREDGE, P.W.D. No. 15 ("R.W.D."), PROVINCE OF NOVA SCOTIA

Details of Material and Time by Months

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					480	224	2,086	1,465	2,775	2,577	2,793	792	15,209
Class of material					Mud and gravel	Mud and gravel	Mud and gravel	Mud and hard pan.	Sand and oyster shells	Sand and oyster shells	Sand and oyster shells mud.	Mud	
Total possible dredging time					170	260	270	260	260	260	260	100	1,840
Total time lost					88	49	78	40	29	36	39	45	404
Hours actually dredging					82	211	192	220	231	224	221	55	1,436
C.yds. handled per hour					5·8	10·6	10·8	6·6	12·0	11·5	12·6	14·4	Aver. 10·5

Details of Expenditures by Months.

Items of Expense.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.
Wages	18 00	16 00	10 00		283 05	565 48	496 75	442 94	522 97	508 40	503 36	186 20	3,553 15
Fuel, coal and oil					96 48	57 75	69 30	1 20	89 70	124 12	35 10	40 50	514 15
Water													
Subsistence							24 51	172 75	73 21	50 65	64 94	23 10	409 16
Wharfage					2 50	5 00	2 50	5 00					15 00
Pilotage								5 00					5 00
Stores—Machinery													
Stores—General					63 83			10 85	73 35	42 10	9 80	3 63	203 56
Repairs—Material			99 55		45 23	3 50	36 80				64 01		100 81
Repairs—Wages			102 12				19 40	8 47	94 52	74 92	8 00	15 86	369 45
Rental of tugs					85 00	130 00	135 00	170 00	145 00	130 00	155 00	100 00	1,050 00
Contingencies	4 00	4 00			19 00	6 30	12 35	10 00	8 00	4 00	7 00	23 29	97 94
Total Expenses	22 00	20 00	211 67		595 09	768 03	796 60	826 21	1,006 75	934 19	847 21	392 58	6,420 04

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expense. $ cts

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expense. $ cts
Sturdee	May 12	July 20	Little Harbour	300 00
Sturdee	July 21	Aug. 31	Cross Island	180 00
Mascott			Towing, Little Harbour to Cross Island	40 00
Sturdee	Sept. 1	Nov. 16	First South	330 00
Mascott			Towing, Cross Island to First South	15 00
Sturdee	Nov. 17	Dec. 14	Stonehurst	120 00
Mascott			Towing, First South to Stonehurst	25 00
Mascott			Towing, Stonehurst to West La Have	40 00
				1,050 00

Details of Expenses and Results Obtained at Points of Work

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material	Wages.			
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Little Harbour, N.S.	1,188 53	179,93	.....	.....	10 00	.....	.....	63 83	120 63	26 52	300 00	28 05	1,917 49
Cross Island	619 64	54 80	.....	197 26	5 00	5 00	.....	10 85	12 97	3 18	220 00	24 30	1,153 00
First South	1,317 13	238 92	.....	179 98	.....	.....	.....	115 45	296 30	64 26	345 00	17 90	2,574 94
Stonehurst	427 85	40 50	.....	31 92	.....	.....	.....	13 43	40 36	8 16	185 00	27 69	774 91
Dredge laid up for winter during January February and March.													
Totals	3,553 15	514 15	.....	409 16	15 00	5 00	.....	203 56	470 26	102 12	1,050 00	97 94	6,420 34

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard
	From	To						
Little Harbour	May 12	July 20	Mud and gravel	4,247	600	406	$4 51	$0·43
Cross Island	July 21	Aug. 27	Mud and hard pan	2,025	340	299	3 74	·55
First South	Sept. 1	Nov. 16	Sand and oyster shells	6,828	680	578	4 12	0·33½
Stonehurst	Nov. 17	Dec. 7	Mud	2,109	220	153	4 83	0·35
Totals	.....	.....	.....	15,209	1,840 00	1,436 00	aver. $4 30	aver. $0 41½

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring.	
							Scows, tugs.	Orders.		Fuel.	Water.
Little Harbour	1	38	51	24	16	.....	25	.....	.....	.....	.....
Cross Island	1	19	10	.....	.....	.....	.....	.....	.....	.....	.....
First South	35	22	10	.....	8	.....	27	.....	.....	.....	.....
Stonehurst	4	28	10	.....	.....	.....	10	.....	10	5	.....
Totals, hours	41	107	81	24	24	.....	62	.....	10	5	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Little Harbour	.....	.....	.....	.....	39	194 00	The sum of $100.81 spent in steel chisel is shown in totals but is not distributed over various localities.
Cross Island	.....	.....	.....	.....	11	41	
First South	.....	.....	.....	.....	.....	102	
Stonehurst	.....	.....	.....	.....	.....	67	
Totals, hours	.....	.....	.....	.....	50	404	

General Remarks: Dredge put into commission at Little Harbour on May 12; laid up for season at West La Have on December 15, 1915.

DREDGE, P.W.D. No. 4, PROVINCES OF QUEBEC AND NOVA SCOTIA

Details of Material and Time by Months.

Items	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled						8,505	16,507	19,305	12,870	13,845	2,925		73,957
Class of material						Sand, mud, clay.	Mud, clay..	Mud, clay..	Mud, clay..	Sand.	Sand.		
Total possible dredging time.. hrs						130	270	260	260	260	50		1,230 00
Total time lost. ... hrs						49	115	87	144	105	18		518 00
Hours actually dredging						81	155	173	116	155	32		712 00
C.yds.handled per hour						105	106½	111¾	111	90	91½		103·¾

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.
Wages						470 00	947 50	964 00	947 00	940 00	926 76	166 45	5,361 71
Fuel (coal or oil)		47 90	19 70			184 05	40 00	742 05	592 03		932 13	46 87	2,604 73
Water	1 00					33 38	15 70	9 00	92 40	3 00	94 75	0 55	249 78
Subsistence		28 03	1 98	6 35	2 40	197 76	307 55	330 35	287 60	305 69	239 50	41 90	1,749 11
Wharfage												5 00	5 00
Pilotage						5 00							5 00
Stores Machinery		38 22	62 34		87 20	313 78	170 42	213 27	21 34	15 21	123 36	36 86	1,082 00
Stores General			12 24		22 50	101 45	6 30	22 00	47 79	24 10	25 05	3 15	264 58
Repairs Material	1,266 46	263 81	363 56		952 22	477 31	2,697 37	2,883 96	120 32	84 13	146 08	568 08	9,823 30
Repairs Wages	429 31	453 64	482 38		1,298 74	669 36	164 70		23 70			135 70	3,657 53
Rental of tugs						40 00	250 00		33 40		1,050 00	900 00	2,273 40
Contingencies	13 83	31 68	17 41		15 73	48 35	26 77	4 84	4 38	6 29	51 30	49 61	270 19
Total Expenses	1,710 60	863 28	959 61	6 35	2,378 79	2,540 44	4,626 31	5,169 47	2,169 96	1,378 42	3,588 93	1,954 17	27,346 33

Details of Tug Service Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Rona	All	season		

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
S.S. *Hiawatha*	May 20..	May 29	Marine slip Pictou, Trenton and Pier No. 3	40 00
Amherst			Magdalen Is. to Pictou	250 00
J. P. Savage Motor boat	May 18		Amherst, N.S.	33 40
Reliable	Oct. 13		Pictou to Mag. Is	800 00
Lady Sybil	Nov. 5		Gr. Entry to Amherst, Mag.Is.	250 00
Amherst	Oct. 14.		Pictou to Grand Entry	900 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts.
Pictou Ferry Ldg., N.S.	112 96	54 87	5 26	36 85	.....	5 00	22 79	5 57	206 95	77 05	47 89	5 70	580 89
Abercrombie Pt., N.S.	233 44	113 41	10 88	76 16	.....	.....	47 11	11 52	427 70	159 25	98 98	11 76	1,190 21
Caribou Hbr., N.S.	564 79	274 38	26 31	184 25	.....	.....	113 97	27 87	1,034 76	385 27	239 47	28 46	2,879 53
Pictou Comm. Whf., N.S.	3,042 32	1,477 96	141 73	992 47	.....	.....	613 95	150 13	5,573 89	2,075 34	1,289 96	153 31	15,511 06
Grand Entry, Mag. Is	1,408 20	684 11	65 60	459 38	5 00	.....	284 18	69 49	2,580 00	960 62	597 10	70 96	7,184 64
Totals	5,361 71	2,604 73	249 78	1,749 11	5 00	5 00	1,082 00	264 58	9,823 30	3,657 53	2,273 40	270 19	27,346 33

Expenses Working at	Time Working.		Kind of Material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Pictou Ferry Ldg., N.S.	June 16	June 18	Sand, mud	1,365	20	15	$38·726	0·425
Abercrombie Pt., N.S.	June 18	June 24	Sand, mud	2,535	60	31	38·393	0·469
Caribou Hbr., N.S.	June 26	July 7	Clay, mud	8,827	110	75	38·393	0·326
Pictou Comm. Whf., N.S	July 14	Sept. 21	Clay, mud	44,460	650	404	38·393	0·348
Grand Entry, Mag. Is	Oct. 9	Nov. 5	Sand	16,770	390	187	38·420	0·428
Totals				73,957	1,230	712	38·407	0·369

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Pictou Ferry Ldg., N.S.	.....	.....	.....	.....	.....	.....	5	.....	.....	.....	.....
Abercrombie Pt., N.S.	.....	3	5	.....	.....	.....	21	.....	.....	.....	.....
Caribou Hbr., N.S.	2	8	.....	.....	10	10	3	.....	.....	.....	.....
Pictou Comm. Whf., N.S.	20	12½	.....	.....	.....	10	173½	.....	30	.....	.....
Grand Entry, Mag. Is.	.....	17	44	.....	.....	10	.....	.....	128	.....	.....
Totals, hours	22	40½	49	.....	10	30	202½	.....	158	.....	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Pictou Ferry Ldg., N.S.	.....	.....	.....	.....	.....	5	
Abercrombie Pt., N. S.	.....	.....	.....	.....	.....	29	
Caribou Hbr., N.S.	2	.....	.....	.....	.....	35	
Pictou Comm. Whf., N.S.	.....	.....	.....	.....	.....	246	
Grand Entry, Mag. Is., P.Q.	4	.....	.....	.....	.....	203	
Totals, hours	6	.....	.....	.....	.....	518	

General Remarks: Dredge put into commission at Pictou, N.S., on June 12; laid up for season at Amherst, Mag. Is., on Nov. 27. Of the above expenditure $19,768 43 was charged to dredging, Ontario and Quebec, and $7,577.90 to dredging, Maritime Provinces. The total expenditure calculated pro rata to the various places where dredging was performed.

DREDGE, P.W.D. No. 101, PROVINCE OF QUEBEC

Details of Material and Time by Months.

Items	January.	February	March.	April.	May.	June.	July.	August	September.	October.	November.	December	Total.
Cubic yards handled					1,129	1,938	2,719	3,649	3,662	3,880	1,819		18,796
Class of material					Clay, boulders	Clay, boulders.	Clay, boulders.	Clay, boulders.	Clay, boulders.	Clay, boulders.	Clay, boulders.		
Total possible dredging time. hrs					190	260	270	260	260	260	120		1,620
Total time lost. hrs					74	40	34	30	75	48	17		318
Hours actually dredging					116	220	236	230	185	212	103		1,302
C.yds. handled per hour					9¾	9	11⅓	16	14¼	18⅓	17⅔		14⅓

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Wages						570 96	1,296 39	708 50	1,061 29	941 06	972 17	949 24	6,499 61
Fuel (coal or oil)							201 19		273 16	164 47	161 68		800 50
Water													
Subsistence.													
Wharfage													
Pilotage													
Stores Machinery					166 25	54 95	68 68	33 54				29 35	352 77
Stores General					80 30								80 30
Repairs Material	38 64				27 00	36 00	57 53		97 18				256 35
Repairs Wages	275 36	144 46	196 76		751 75	495 29	180 86	85 25	53 96	82 69	117 33	26 26	2,409 97
Rental of tugs							46 00	54 00	48 00	42 00	48 00	40 00	278 00
Contingencies	16 50				14 50	8 20	9 20		9 20		9 20	6 00	72 80
Total Expenses	330 50	144 46	196 76		1,039 80	1,165 40	1,859 85	881 29	1,542 79	1,230 22	1,308 38	1,050 85	10,750 30

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistenee	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material	Wages.			
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.
St. Louis de Gonzague	6,499 61	800 50					352 77	80 30	256 35	2,409 97	278 00	72 80	10,750 30
Totals	6,499 61	800 50					352 77	80 30	256 35	2,409 97	278 00	72 80	10,750 30

Expenses Working at	Time Working. From	Time Working. To	Kind of material.	No. C. Yds. Moved	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
St. Louis de Gonzague	May 10	Nov. 13	Boulders and clay	18,796	1,620	1,302	$8·256	0·571
Totals				18,796	1,620	1,302	$8·256	0·571

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on Scows, tugs.	Waiting on Orders	Towing, etc.	Procuring Fuel.	Procuring Water.
St. Louis de Gonzague	198		80			30					
Totals, hours	198		80			30					

Time Lost at	Cleaning. Plant.	Cleaning. Boilers.	Inspecting Boilers	Short Supplies.	Miscellaneous.	Total.	Remarks.
St. Louis de Gonzague					10	318	
Totals, hours					10	318	

General Remarks: Dredge put into commission at St. Louis de Gonzague on May 3; laid up for season at St. Louis de Gonzague, Nov. 27, 1915. The large amount of time lost through repairs was due to breaking of anchors.

DREDGE, P.W.D. No. 102, PROVINCE OF QUEBEC.

Details of Material and Time by Months.

Items.	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						900	9,360	5,138	6,989	5,241	1,845		29,473
Class of material						Clay.	Clay.	Clay, gravel stones.	Clay, gravel stones, logs.	Clay, stones, gravel, logs.	Clay.		
Total possible dredging time hrs						100	270	260	260	260	50		1,200 00
Total time lost hrs						60	48	38	62	67	10		285 00
Hours actually dredging						40	222	222	198	193	40		915 00
C.yds handled per hour						22½	42	23	35⅓	27	46		32·00

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.
Wages						209 83	590 06	659 00	677 02	486 74	627 98	97 42	3,348 05
Fuel (coal or oil)	9 45		22 70					353 76	22 50	234 45		32 40	675 26
Water													
Subsistence	0 75	4 50	0 75		16 16	84 10	236 55	212 51	166 68	173 50	179 42	26 58	1,101 50
Wharfage													
Pilotage													
Stores (Machinery		10 79	114 21	65 29	42 80	19 87	95 59	136 59	22 96	1 31	38 43	1 50	549 34
Stores (General	1 50		76 78	6 78	43 88	5 10	21 21	30 70	25 08		13 50		230 53
Repairs (Material	197 15	38 80	162 62	97 27	586 75	126 57	387 48	287 13	22 66	18 41	143 25	151 21	2,219 30
Repairs (Wages	120 34	92 50	204 34	574 15	775 63	775 80	138 23	184 95	99 54	83 72	14 44	136 91	3,200 55
Rental of tugs													
Contingencies	36 99		212 05	0 41	12 25	11 39	171 77	15 50	14 27	9 52	37 31	24 33	545 79
Total Expenses	366 18	146 59	793 45	743 90	1,477 47	1,232 66	1,640 89	1,886 14	1,050 71	1,007 65	1,054 33	470 35	11,870 32

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
Eileen	All	season		$ cts.					$ cts.

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage	Stores.		Repairs.		Rental Tugs.	Contingencies	Total Expenses.
							Machinery.	General.	Material.	Wages.			
Lievre River.	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.
La Salette	925 74	186 71	.....	304 57	.....	.....	151 90	63 74	613 65	884 96	.....	150 91	3,282 18
Poupore	1,094 06	220 66	.....	359 94	.....	.....	179 51	75 33	725 21	1,045 86	.....	178 35	3,878 92
Biglow, B. Cut	406 16	81 92	.....	133 62	.....	.....	66 64	27 97	269 23	388 26	.....	66 21	1,440 01
Biglow, C. Cut	226 86	45 75	.....	74 64	.....	.....	37 22	15 62	150 38	216 87	.....	36 98	804 32
Smith's Point	201 25	40 59	.....	66 21	.....	.....	33 02	13 86	133 40	192 38	.....	32 81	713 52
Brazeau Cut	493 98	99 63	.....	162 52	.....	.....	81 05	34 01	327 43	472 22	.....	80 53	1,751 37
Totals	3,348 05	675 26	.....	1,101 50	.....	.....	549 34	230 53	2,219 30	3,200 55	.....	545 79	11,870 32

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
Lievre River.	From	To						
La Salette	July 19	July 29	Clay	10,140	350	253	12·973	0·323
Poupore	Aug. 13	Sept. 1	Clay, stones, logs	10,343	410	316	12·973	0·375
	Oct. 12	Nov. 5	Clay					
Biglow, B. Cut	July 31	Aug. 12	.....	1,860	120	94	12·973	0·774
Biglow, C. Cut	Sept. 24	Oct. 1	Gravel, logs	2,864	80	62	12·973	0·355
Smith's Point	Oct. 2	Oct. 8	Stones, gravel	351	60	55	12·973	0·203
Brazeau Cut	Sept. 2	Sept. 22	Clay, logs, stones	4,515	180	135	12·973	0·387
Totals				29,473	1,200	915	12·973	0·402

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Repairs to Tug.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
La Salette	14	6	.....	27	.....	10	.....	.....	16	3	.....
Poupore	33	15	.....	.....	.....	20	.....	.....	19	.....	.....
Biglow B. Cut	.....	3	5	.....	.....	.....	.....	.....	13	.....	.....
Biglow, C. Cut	.....	3	.....	.....	.....	.....	.....	.....	3	.....	.....
Smith's Point	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brazeau Cut	1	8½	.....	.....	.....	10	2½	.....	.....	1	.....
Totals, hours	48	38½	5	27	.....	40	2½	.....	51	4	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers					
La Salette	4	.....	10	.....	7	97	
Poupore	4	.....	.....	.....	3	94	
Biglow, B. Cut	3	.....	.....	.....	2	26	
Biglow, C. Cut	1	.....	.....	.....	11	18	
Smith's Point	.....	.....	.....	.....	2	5	
Brazeau Cut	1	.....	.....	.....	21	45	
Totals, hours	13	.....	10	.....	46	285	

General Remarks: Dredge put into commission at Buckingham on June 14; laid up for season at Buckingham on Nov. 30, 1915. Dredge hauled out, hawsed, caulked and repaired. A frame base repaired, scows thoroughly overhauled, given new decks and doors as required; tug machinery overhauled.

DREDGE, P.W.D. No. 103, PROVINCES OF QUEBEC AND ONTARIO.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.
Cubic yards handled	...	.....	..	..	1,753	6,356	14,916	14,125	11,209½	11,638	4,919½	.....	61,917
Class of material	.....	.....	..	..	Clay, boulders, gravel, hard pan.	Clay, gravel hard pan, boulders, pulp.	Pulp, logs, clay, boulders.	Pulp, sand, clay, logs, gravel, boulders.	Pulp, gravel sand, boulders.	Pulp, gravel, sand, clay,	Pulp, clay, sand, boulders.	.....	
Total possible dredging time ... hrs	...	.....	.....	.....	170	260	270	260	260	260	110	.....	1,590
Total time lost. hrs	...	.....	.....	.....	57	101	48	37½	55	58½	17½	.....	374½
Hours actually dredging	...	.....	.....	.....	113	159	222	222½	205	201½	92½	.....	1,215½
C.yds. handled per hour	..	.....	.....	.....	15½	40	67¼	63½	54½	57¾	53½	.....	53½

Details of Expenditures by Months

Items of Expense.	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts.
Wages ...	...	.....	176 77	.....	331 26	514 12	534 45	542 93	493 22	526 13	550 83	.....	3,669 71
Fuel (coal or oil)	...	.....	514 69	.....	.....	.....	.....	.....	.....	.....	.....	.....	514 69
Water ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Subsistence. ...	.....	.....	49 09	36 30	115 34	312 02	192 25	172 00	195 65	182 80	168 25	11 28	1,434 98
Wharfage ...	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pilotage ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stores (Machinery	...	.....	193 16	22 21	125 65	143 51	81 73	82 27	1 00	1 20	3 03	.....	653 76
Stores (General	.....	.....	142 41	1 50	5 87	4 23	9 22	5 58	10 48	4 25	55 00	.....	238 54
Repairs (Material	493 18	151 66	417 95	176 51	387 57	43 28	100 63	38 64	3 48	154 15	50 89	69 99	2,087 93
Repairs (Wages	701 77	455 87	1,040 24	1,294 49	687 07	284 35	135 02	218 63	240 08	258 54	1 98	200 50	5,518 54
									110 50	..	231 73	.....	342 23
Rental of tugs ...	.....	.....	.....	.....	.....	.....	.....	.....	13 03	.....	49 25	0 99	579 35
Contingencies	19 00	.....	441 63	35 88	5 00	13 86	0 20	0 51	.....	.....	.....	.....	.....
Total Expenses	1,213 95	607 53	2,975 94	1,566 89	1,657 76	1,315 37	1,053 50	1,060 56	1,067 44	1,127 07	1,110 96	282 76	15,039 73

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
Alta	All season			

Rented Tugs.

Name of Tug	Employed. From	Employed. To	Locality.	Expenses.
				$ cts
Osborne	Aug. 19.	Aug. 25	Hawkesbury	110 59
W. E. Lawlor	Sept. 15.	Sept. 18	Hawkesbury	56 48
W. E. Lawlor	Oct. 1	Oct. 5	Hawkesbury	60 00
W. E. Lawlor	Sept. 28		Hawkesbury	60 00
W. E. Lawlor	Oct. 30		Hawkesbury	55 25

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies	Total Expenses.
							Machinery	General.	Material	Wages.			
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Grenville	582 68	81 72	.....	227 85	.....	.....	103 81	84 14	331 53	876 25	.....	91 99	2,379 97
Hawkesbury	3,087 03	432 97	.....	1,207 13	.....	.....	549 95	154 40	1,756 40	4,642 29	342 23	487 36	12,659 76
Totals	3,669 71	514 69	.....	1,434 98	.....	.....	653 76	238 54	2,087 93	5,518 54	342 23	579 35	15,039 73

Expenses Working at	Time Working.		Kind of Material.	No. C. Yds. Moved.	Possible Work Hours	Actual Work Hours.	Hour-Cost Actually Dredging	Cost per Cubic Yard.
	From	To						
Grenville	May 12	June 12	Clay, boulders, gravel, hard pan	3,418	280	193	$12·331	0·696
Hawkesbury	June 19	Nov. 12	Pulp, clay, sand, gravel	61,499	1,310	1,022½	12·381	0·205
Totals	.....	.....	.....	64,917	1,590	1,215½	12·373	0·231

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Grenville	45	1	.....	.....	.....	10	.....	.....	3	5	.....
Hawkesbury	48	1½	.....	.....	.....	30	19½	30	8½	31½	14
Totals, hours	93	2½	.....	.....	.....	40	19½	30	11½	36½	14

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Grenville	4	.....	.....	.....	19	87	
Hawkesbury	29½	17	.....	.....	58	287½	Work at Hawkesbury was for the Riordon Pulp & Paper Co., and the following material was removed: Pulp=54,966½ cu.yds., clay, sand and gravel 6,476½, boulders 56, logs 214.
Totals, hours	31½	17	.....	.....	77	374½	

General Remarks: Dredge put into commission at Ottawa, Ont., on May 1; laid up for season at Ottawa, Ont., on Dec. 4. This dredge is entitled to a credit amounting to $6,695 for work done at Hawkesbury for Riordon Pulp & Paper Co. Dredge, docked, hull hawsed, caulked and repaired as required, deck renewed as required and machinery overhauled. Tug *Alva* docked, hawsed and caulked, new rail deck repaired, machinery thoroughly overhauled and boiler repaired; scows docked, hawsed and caulked and new rollers installed.

DREDGE, P.W.D. No. 105, PROVINCE OF ONTARIO.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					8,094	13,206	5,454						26,754
Class of material					Mud, sand	Mud, sand	Mud, sand						
Total possible dredging time.....hrs					180	260	120						560
Total time lost.....hrs					59	68	37						164
Hours actually dredging					121	192	83						396
C.yds.handled per hour					67	68½	65½						67¾

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.
Wages					343 84	535 80	567 74	180 64	120 76				1,748 78
Fuel, (coal or oil)			19 70			651 25	642 27	247 94					1,561 16
Water													
Subsistence			9 75	47 85	118 50	216 35	208 90	44 30	5 02				650 67
Wharfage													
Pilotage								84 00					84 00
Stores {Machinery			62 34	32 55	381 21	5 98	65 72	11 69	42 44				601 93
Stores {General			12 24	16 96			4 23						33 43
Repairs {Material			26 03	300 86	382 21	175 75	299 99	213 27					1,398 11
Repairs {Wages	100 00	192 69	246 21	564 71	358 84	230 51	9 30	1,149 72	852 14				3,704 12
Rental of tugs							50 00						50 00
Contingencies	9 80	9 20	670 56	9 95	6 75	31 97	13 12	69 05	46 82				867 22
Total Expenses	109 80	201 89	1,046 83	972 88	1,591 35	1,847 61	1,861 27	2,000 61	1,067 18				10,699 42

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expense. $ cts
Sir John	All	season		

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expense. $ cts
Carl King	July 17		Towing dredge from Newcastle to Bowmanville, and towing tug *Sir John*, Bowmanville to Toronto	50 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
Bowmanville, Ont	1,313 25	1,114 25	.....	514 50	.....	.....	510 73	28 36	1,122 64	2,200 19	42 42	710 87	7,557 21
Newcastle, Ont	234 51	198 97	.....	91 87	.....	.....	91 20	5 07	200 47	392 89	7 58	126 95	1,349 51
Dismantling dredge at Ottawa	201 02	247 94	.....	44 30	.....	84 00	.....	.....	75 00	1,111 04	.....	29 40	1,792 70
Totals	1,748 78	1,561 16	.....	650 67	.....	84 00	601 93	33 43	1,398 11	3,704 12	50 00	867 22	10,699 42

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Bowmanville, Ont	May 11	July 6	Sand, mud	22,988	490	336	22,491	0·328
Newcastle, Ont	July 7	July 14	Sand, mud	3,766	70	60	22,491	0·358
Totals	.....	.....	.....	26,754	560	396	22,491	0·332

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Bowmanville, Ont	38	2	83	.....	.....	30	.....	.....	.....	1	.....
Newcastle, Ont	.....	1	.....	.....	.....	.....	.....	5	4	.....	.....
Totals, hours	38	3	83	.....	.....	30	.....	5	4	1	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Bowmanville, Ont	.....	.....	.....	.....	.....	154	
Newcastle, Ont	.....	.....	.....	.....	.....	10	
Totals, hours	.....	.....	.....	.....	.....	164	

General remarks: Dredge put into commission at Bowmanville, Ont., on April 30; laid up for season at Ottawa, Ont. This dredge was dismantled at Victoria Island Shipyard, Ottawa. Machinery installed in Dredge, P.W.D No. 120, during winter 1915–16.

DREDGE, P.W.D. No. 106, PROVINCE OF QUEBEC

Details of Material and Time by Months.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September	October.	November.	December	Total.
Cubic yards handled					1,602	4,036	2,507	2,184	5,660	4,370	3,631		23,990
Class of material					Clay, stones.	Clay	Clay, sand, boulders.	Boulders, sand.	Sand, clay.	Sand, clay, bark.	Sand, clay,		
Total possible dredging time hrs					180	260	270	260	260	260	150		1,640
Total time lost hrs					102	89	104½	200½	96	124	51½		767½
Hours actually dredging					78	171	165½	59½	164	136	98½		872½
C yds handled per hour					20½	23¾	15	37	34½	32¼	37		27

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Wages			18 17		335 15	460 01	463 57	485 07	443 70	497 25	516 76	113 70	3,333 83
Fuel, (coal or oil)			491 96					471 32		239 40		332 04	1,534 72
Water													
Subsistence			7 40		188 80	191 50	175 13	239 75	171 00	173 50	144 00	30 00	1,321 08
Wharfage													
Pilotage													
Stores Machinery			124 14	6 96	168 83	152 08	63 11	0 55	6 58	14 88	3 03		540 16
Stores General			79 54		7 07		1 30		1 20				89 11
Repairs Material	73 96	493 94	214 52	150 16	247 83	62 47	40 59		1 25	68 06	14 88	45 76	1,113 42
Repairs Wages	124 51	938 44	586 86	1,303 86	468 84	116 08	52 82	23 80	72 75	254 92	11 56	51 62	4,006 06
Rental of tugs								5 25					5 25
Contingencies	31 84		429 95	19 68	11 21			1 75	2 00	11 00	35 17	2 32	544 92
Total Expenses	230 31	1,132 38	1,952 54	1,480 66	1,427 73	982 14	796 52	1,227 49	698 48	1,259 01	725 40	575 44	12,488 10

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Daisy	All season				*Alonzo Boisvert*	Aug. 11		Nicolet	5 25
Delisle	Aug. 7	Aug. 21	Towing from Isle Perrot to Nicolet.						

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence	Wharfage.	Pilotage	Stores. Machinery	Stores. General.	Repairs. Material	Repairs. Wages.	Rental Tugs.	Contingencies	Total Expenses.
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Papineauville	221 59	102 02		87 82			35 91	5 92	74 02	266 31		36 23	829 82
Como	993 33	457 34		393 67			160 96	26 56	331 79	1,193 78		162 39	3,719 82
Como (Senator Boyer)	59 22	27 26		23 47			9 60	1 58	19 79	71 17		9 68	221 77

Oka	19 10	8 79		7 58			3 10	0 51	6 38	22 96		3 13	71 55
Isle Perrot	324 74	149 52		128 70			52 62	8 68	108 47	390 27		53 09	1,216 09
Nicolet	34 38	15 83		13 63			5 57	0 92	11 48	41 32	5 25	5 62	134 00
Louiseville	1,289 42	593 66		511 02			208 94	34 47	430 69	1,549 62		210 76	4,828 58
Tourville	391 60	180 30		155 19			63 46	10 47	130 80	470 63		64 02	1,466 47
Totals	3,333 38	1,534 72		1,321 08			540 16	89 11	1,113 42	4,006 06	5 25	544 92	12,488 10

Expenses Working at	Time Working. From	To	Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
Papineauville	May 10	May 18	Clay stone	1,348	75	58	14·307	0·664
Como	May 26	July 8	Clay, stones	5,770	475	260	14·307	0·644
	July 12	July 14						
Como (Senator Boyer)	July 9	July 16	Clay	322	20	15½	14·307	0·688
Oka	July 16	July 16	Sand	115	10	5	14·307	0·622
Isle Perrot	July 21	Aug. 5	Boulders and clay	782	70	85	14·307	1·555
Nicolet	Aug. 13	Aug. 14	Sand	429	140	9	14·888	0·429
Louiseville	Aug. 25	Sept. 22	Sand, clay, bark	12,656	480	337½	14·307	0·381
	Oct. 25	Nov. 17						
Tourville	Sept. 28	Oct. 23	Sand, clay, bark	2,668	270	102½	14·307	0·549
Totals				23,990	1,640	872½	14·313	0·520

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on Scows, tugs.	Waiting on Orders.	Towing, etc.	Procuring Fuel.	Procuring Water.
Papineauville		2	10						2	2	
Como	33	4	105			20	4		37	5	
Como (Senator Boyer)	2	1½	1								
Oka		3									
Isle Perrot	13½		30						30	3	
Nicolet		5	35					10	45	10	
Louiseville	34	9½	3		2	20	16	5	10	9	
Tourville	30	4	8				107½				
Total hours	112½	29	192		2	40	127½	15	124	29	

Time Lost at	Cleaning. Plant.	Cleaning. Boilers.	Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
Papineauville	1					17	
Como	2				5	215	
Como (Senator Boyer)						4½	Work at Como for Senator Boyer.
Oka					2	5	
Isle Perrot	1				7½	85	Work at Oka for Mr. Geoffrion
Nicolet					26	131	
Louiseville	3				31	142½	
Tourville					18	167½	
Totals, hours	7				89½	767½	

General Remarks: Dredge put into commission at Ottawa, May 5; laid up for season at Montreal on Dec. 16. Dredge No. 106 is entitled to a credit amounting to $152.42 for work performed for Senator Boyer at Como, also $60 97 for work done at Oka for Mr. Geoffrion. Dredge hauled out and hull rebuilt from water line up, hawsed and caulked, machinery overhauled, ordinary repairs to tug and scows.

DREDGE, P.W.D. No. 108 ("DESCHENES"), PROVINCES OF ONTARIO AND QUEBEC.

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled					1,992	4,980	4,438	4,123	2,697	2,327			20,557
Class of material					Boulders, sand, clay.	Boulders, sand, clay.	Boulders, clay, gravel.	Boulders, clay, gravel, sand, stones	Clay, sand, rock, gravel, boulders.	Mud, stones, clay, boulders, rocks.			
Total possible dredging time					110	260	270	260	260	260			1,400
Total time lost					21½	56½	56½	54	97	79			364½
Hours actually dredging					88½	203½	213½	206	163	161			1,035¾
C.yds. handled per hour					22½	24½	20¾	20	16½	14½			19¾

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.
Wages					246 78	485 80	481 21	470 52	408 00	507 06	141 84		2,741 21
Fuel (coal or oil)	184 22		22 70			404 27		390 05		363 16		57 00	1,421 40
Water													
Subsistence	2 50				90 50	167 00	203 90	174 95	168 00	179 70	35 50		1,022 05
Wharfage													
Pilotage													
Stores (Machinery			114 91	8 44	16 47	32 67	182 75	18 76	50 49	20 86	1 50		446 85
Stores (General			12 24		10 88		1 63	0 10	1 74		4 23		30 82
Repairs (Material			23 07	147 16	416 70	57 31	262 34	23 28	0 17	220 82		8 16	1,159 01
Repairs (Wages	90 00	90 00	106 66	727 46	429 67	65 47	99 17	110 81	254 87	5 81	13 33	85 55	2,078 80
Rental of tugs					12 00								12 00
Contingencies	8 20	2 40	186 53	25 15	1 15	0 30	13 05		7 90	43 97	5 00	63 00	356 65
Total Expenses	281 92	92 40	466 11	908 21	1,224 15	1,212 82	1,244 05	1,188 47	891 17	1,341 38	201 40	213 71	9,268 79

DETAILS OF TUG SERVICE.—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.					RENTED TUGS.				
Name of Tug.	Employed.		Locality	Expenses.	Name of Tug.	Employed.		Locality.	Expenses.
	From	To		$ cts		From	To		$ cts
Aylmer	All season								

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.
Fitzroy Harbour	2,741 21	1,421 40	.....	1,022 05	.....	.....	446 85	30 82	1,159 01	2,078 80	12 00	356 65	9,268 79
Totals	2,741 21	1,421 40	.....	1,022 05	.....	.....	446 85	30 82	1,159 01	2,078 80	12 00	356 65	9,268 79

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Fitzroy Harbour	May 19.....	Oct. 28.....	Boulders, clay, sand, rock mud, gravel, stones.....	20,557	1,400	1,035¾	$8·948	0·450
Totals	.....	.....	.....	20,557	1,400	1,035¾	$8·948	0·450

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Fitzroy Harbour	116	23½	25	.....	.....	50	19	2½	56¼	.....	.....
Totals, hours	116	23½	25	.....	.....	50	19	2½	56¼	.....	.....

Time Lost at	Cleaning.		Blasting Boulders.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Fitzroy Harbour	23½	.....	8½	.....	40	364¼	
Totals, hours	23½	.....	8½	.....	40	364¼	

General Remarks: Dredge put into commission at Quyon, Que., on May 15; laid up for season at Aylmer, Que., on Nov. 27. This plant was completely dismantled, hull and scows being pulled out at Aylmer and machinery of dredge stored at Victoria Island shipyard.

DREDGE, P.W.D. No. 109 ("INDUSTRY"), PROVINCE OF ONTARIO.

Details of Material and Time by Months.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled					17,362	11,886	27,847	38,016	16,903				112,014
Class of material					Boulders, sand, hard pan, silt.	Rock, hard pan, sand.	Rock, sand, clay, gravel hard pan, boulderd.	Clay, sand, graved, boulders, rock, hard pan.	Clay, boulders, sand, silt.				
Total possible dredging time hrs					190	260	275	268	220				1,213
Total time lost hrs					49¾	89·½	136½	87¼	105				467¾
Hours actually dredging					140¼	170·½	138½	180¾	115				745¼
C.yds. handled per hour					124	69½	201½	211	147				150⅓

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.
Wages					894 95	1,005 44	1,234 49	1,173 19	1,167 17	1,033 97	181 45		6,690 66
Fuel (coal or oil)			29 53			848 25	780 00		1,332 50	395 50	588 25		3,974 03
Water													
Subsistence			10 12		281 70	408 11	402 50	387 14	413 59	235 06	67 15		2,205 37
Wharfage											10 00		10 00
Pilotage													
Stores \Machinery			95 88		347 59	671 58	347 59	78 31	906 50	35 13	11 75		2,197 33
\General			13 87		13 50	47 35	50 67	22 00	4 33	1 74	4 23		157 69
Repairs \Material		42 80	3,353 35	190 00	952 59	2,814 77	1,146 26	1,418 22	118 72		49 19		10,085 90
\Wages	247 54	257 62	1,141 90	986 92	428 54	274 15	41 15	92 56	61 02	38 86	132 26	100 00	3,802 82
Rental of tugs							240 00	141 00	411 00				792 00
Contingencies			321 03	30 20	0 42	74 75	6 73	1 26	81 00	208 60	32 73	21 86	778 58
Total Expenses	247 54	300 42	4,965 68	1,207 12	2,919 29	6,147 70	4,249 39	3,313 68	4,495 83	1,948 86	1,077 01	121 86	30,994 38

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses $ cts
Hercules	All season.			

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses $ cts
Reliance	July 10	July 12	Soo to Michipicoten	240 00
Scow No. 2				
Capt. A. B. McLean & Sons.	July 8	July 31	Delivering coal. Per MacL	141 00
Capt. A. B. McLean & Sons.	Aug. 1	Sept. 7	Delivering coal. Per MacL	225 00
Reliance	Sept. 5	Sept. 6	Michipicoten to Sault Ste. Marie	186 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.
S.S. *Marie*, Imperial Oil Co	2,682 55	1,593 35	.....	884 22	.....	.....	1,001 27	63 24	4,043 84	1,524 62	317 55	312 16	12,422 80
S.S. *Marie*, Downey Wharf	233 36	138 63	.....	76 93	.....	.....	87 12	5 52	351 83	132 65	27 63	27 16	1,080 83
S.S. *Marie*, Ferry Wharf	132 42	78 65	.....	43 64	.....	.....	49 42	3 13	199 59	75 39	15 67	15 40	613 31
S.S. *Marie*, Superior Paper Co	870 75	517 20	.....	287 01	.....	.....	325 01	20 54	1,312 61	494 90	103 07	101 33	4,032 42
Quebec Harbour	2,484 32	1,475 58	.....	818 88	.....	.....	927 29	58 47	3,745 00	1,412 01	294 08	289 10	11,504 73
Michipicoten Harbour	287 26	170 62	.....	94 69	10 00	.....	107 22	6 79	433 03	163 25	34 00	33 43	1,340 29
Totals	6,690 66	3,974 03	.....	2,205 37	10 00	.....	2,497 33	157 69	10,085 90	3,802 82	792 00	778 58	30,994 38

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
S.S. *Marie*, Imperial Oil Co	May 10	June 28	Boulders, silt, sand, rock, hard pan	28,770	430	298½	41·570	0·431
S.S. *Marie*, Downey Wharf	June 29	July 2	Rock, sand	1,503	40	26	41·570	0·719
S.S. *Marie*, Ferry Wharf	July 3	July 5	Rock sand	1,270	20	14½	41·580	0·482
S.S. *Marie*, Superior Paper Co	Sept. 9	Sept. 25	Boulders, clay, silt, sand	11,632	200	97	41·570	0·346
Quebec Harbour	July 15	Aug. 26	Sand, clay, gravel, boulders, rock, hard pan.	60,232	455	276½	41·570	0·189
Michipicoten Harbour	Aug. 30	Sept. 2	Clay	8,607	68	32	41·884	0·155
Totals				112,014	1,213	745½	41·575	0·276

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
S.S. *Marie*, Imperial Oil Co	68¼	19½	5	.....	.....	10	1⅓	.....	.....	1	.....
S.S. *Marie*, Downey Wharf	3	4	.....	.....	.....	5	.....	.....	.....	.....	.....
S.S. *Marie*, Ferry Wharf	.....	1½	.....	.....	.....	.....	.....	.....	.....	.....	.....
S.S. *Marie*, Superior Paper Co	13½	20½	1½	.....	.....	.....	.....	.....	.....	.....	.....
Quebec Harbour	32	10	2	2	.....	.....	3	.....	46½	5½	.....
Michipicoten Harbour	½	1½	.....	.....	.....	.....	.....	.....	78	7	.....
Totals, hours	117½	56⅓	8½	2	.....	15	4⅓	.....	28	5	.....
									152½	18½	.....

Time Lost at	Cleaning.		Inspecting Boilers	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
S.S. *Marie*, Imperial Oil Co	1	.....	.....	.....	25⅛	131⅛	
S.S. *Marie*, Downey Wharf	.....	.....	.....	.....	2	14	
S.S. *Marie*, Ferry Wharf	1	.....	.....	.....	3	5¼	
S.S. *Marie*, Superior Paper Co	3	.....	.....	.....	9¼	103	
Quebec Harbour	7¼	.....	.....	.....	40	178¼	
Michipicoten Harbour	.....	.....	.....	.....	1	36	
Totals, hours	12¼	.....	.....	.....	80½	467⅞	

General Remarks: Dredge put into commission at Sault Ste. Marie on May 6; laid up for season at Sault Ste. Marie on Oct. 21. Two new spud anchors made, dippers and dipper arm overhauled; boiler repaired, peak sheave rebushed, main engine overhauled, tug given general overhauling and new doors on scows where required.

QUEBEC.

DREDGE, P.W.D. No. 110 ("INTERNATIONAL"), PROVINCE OF QUEBEC.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total
Cubic yards handled					7,550	17,140	12,190	11,680	5,000				53,560
Class of material					Cl. gr. rock hard pan.	Clay, gravel hard pan.	Clay, rock, gravel.	Rock, gravel, hard pan.	Clay, hard pan.				
Total possible dredging time.....hrs					120	260	270	260	150				1,060
Total time lost					44½	80½	101½	76	63½				366
Hours actually dredging					75½	179½	168½	184	86½				694
C.yds.handled per hour					100¾	95⅞	72⅜	63½	58				77

Details of Expenditures by Months.

Items of Expense.	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts
Wages			172 62		367 88	1,095 92	1,172 57	1,096 75	1,105 11	382 00	430 00	151 72	5,974 57
Fuel, (coal or oil)			44 52		141 51	270 90	411 09	1,118 01	502 78	231 46	267 96	98 00	3,086 23
Water													
Subsistence			34 14	24 30	307 96	482 98	461 94	432 96	398 91	133 45	123 13	41 29	2,441 06
Wharfage													
Pilotage													
Stores (Machinery		2 00	153 22	256 53	261 71	545 69	145 27	316 95	140 20		211 31	1 10	2,033 98
Stores (General	0 30		22 60	15 09		7 75	43 13	4 68	27 00	1 63	10 58	4 23	136 99
Repairs (Material	514 41		597 35	223 08	2,154 95	393 37	3,067 94	621 86	86 24	2,654 77	353 30	370 24	11,037 51
Repairs (Wages	180 65	155 35	269 81	585 82	548 57	123 96	684 40	343 54	21 04	391 07	50 00	392 80	3,747 01
Rental of tugs	60 00				30 00	15 00							105 00
Contingencies	13 60		446 57	2 75	89 05	13 15	24 50	4 77	63 20	23 16	13 14	29 62	723 51
Total Expenses.	768 96	157 35	1,740 83	1,107 57	3,901 63	2,948 72	6,010 84	3,939 52	2,344 48	3,817 54	1,459 42	1,089 00	29,285 86

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Delisle	May 18	June 29	Longueuil						
	July 12	July 14	Longueuil						
	July 26	July 31	Longueuil						
Blanche	June 30	July 16	Longueuil						
	Aug. 2	Sept. 17	Longueuil						
Wilkerbee	June 4	June 28	Longueuil						
	June 30	July 11	Longueuil						
	July 15	Sept. 17	Longueuil						

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts.
Longueuil, Gov. Wharf	348 66	180 10	.....	142 45	.....	.....	118 70	8 00	644 12	218 67	6 13	42 22	1,709 05
Longueuil, R. & O. Wharf	5,625 91	2,906 13	.....	2,298 61	.....	.....	1,915 28	128 99	10,393 39	3,528 34	98 87	681 29	27,576 81
Totals	5,974 57	3,086 23	.....	2,441 06	.....	.....	2,033 98	136 99	11,037 51	3,747 01	105 00	723 51	29,285 86

Expenses Working at	Time Working.		Kind of material	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Longueuil, Gov. Wharf	May 18	May 25	Rock, hard pan	3,280	70	40½	42·198	0·521
Longueuil, R. & O. Wharf	May 26	Sept. 17	Clay, gravel, hard pan, rock	50,280	990	653½	42·198	0·548
Totals	.....	.....	.....	53,560	1,060	694	42·198	0·546

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Longueuil, Gov. Wharf	3½	.....	11	.....	.....	10	2	.....	.....	1	.....
Longueuil, R. & O. Wharf	127	66	31	.....	.....	20	18½	.....	.....	13	.....
Totals, hours	130½	66	42	.....	.....	30	20½	.....	.....	14	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Longueuil, Gov. Wharf	.....	.....	.....	.....	2	29½	
Longueuil, R. & O. Wharf	5	7	.....	.....	49	336½	
Totals, hours	5	7	.....	.....	51	366	

General Remarks: Dredge put into commission at Montreal, Que., on May 14; laid up for season at Montreal on Oct. 15. Miscellaneous time at R. & O. wharf is accounted for by dredge having to move out of way of ferry and also time lost changing cuts. Dredge docked, hull scraped and painted, anchor slides repaired, hoisting machinery overhauled, tug *Witherbee* docked twice to replace broken propellors; ordinary repairs to scows.

DREDGE, P.W.D. No. 111 ("LAC ST. JEAN"), PROVINCE OF QUEBEC

Details of Material and Time by Months

Items	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total
Cubic yards handled					1,040	3,086	3,108	749	4,507	4,467	2,273		19,230
Class of material					Clay, small boulders.	Clay, sand.	Clay, sand.	Clay, sand.	Clay, sand	Clay, sand	Clay, sand		
Total possible dredging time hrs					90	260	270	260	260	260	110		1,510
Total time lost hrs					50	142	133½	198½	66	57	20		667
Hours actually dredging					40	118	136½	61½	194	203	90		843
C.yds.handled per hour					26	26	23	12	23¼	22	25¼		22⅞

Details of Expenditures by Months

Items of Expense.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts
Wages						124 92	841 78	188 71	470 60	477 00	462 66		2,565 67
Fuel (coal or oil)						3 49				15 00	15 00	8 79	42 28
Water													
Subsistence						83 20	335 50	170 50	165 00	170 50	99 00	10 00	1,033 70
Wharfage													
Pilotage													
Stores (Machinery)		3 50				97 68	65 73		0 64	24 75	48 78	1 57	242 65
Stores (General)						23 10		4 23		8 00			35 33
Repairs (Material)					60 47	101 30	113 18		13 25	21 55	33 17		345 02
Repairs (Wages)	95 00	95 00	95 00		350 50	347 27	198 22	331 29	49 40	43 00			1,604 68
Rental of tugs						42 00	18 00						60 00
Contingencies					8 85	20 26	25 86		38 76		58 79		152 52
Total Expenses	95 00	98 50	95 00		419 82	846 22	1,598 27	694 73	737 65	759 80	717 40	20 36	6,082 75

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses $ cts
Marie Louise	All season			

Rented Tugs.

Name of Tug	Employed. From	Employed. To	Locality	Expenses. $ cts
Str. *Nord*	May 18		Roberval to St. Felicien	42 00
Simon Cimon	June 9		St. Felicien to St. Methode	18 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
St. Félicien	199 35	3 29		80 32			18 85	2 75	26 87	124 68	4 66	11 85	472 62
Tikuabe River	2,366 32	38 99		953 38			223 80	32 58	319 05	1,480 00	55 34	140 67	5,610 13
Totals	2,565 67	42 28		1,033 70			242 65	35 33	345·92	1,604 68	60 00	152 52	6,082 75

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging	Cost per Cubic Yard.
	From	To						
St. Félicien	May 21	June 7	Clay, small boulders	1,600	150	65½	$7·215	0·295
Tikuabe River	June 11	Nov. 12	Sand, clay	17,630	1,360	777½	7·215	0·318
Totals				19,230	1,510	843	7·215	0·316

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
St. Félicien	27½	3	21			20			4	4	
Tikuabe River	360½	18½	26			40			20	83	
Totals, hours	388	21½	47			60			24	87	

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers					
St. Félicien	2				3	84½	
Tikuabe River	15	7			12½	582½	
Totals, hours	17	7			15½	667	

General Remarks: Dredge put into commission at Roberval, Que., on May 10; laid up for season at St. Methode on Nov. 29. The amount shown on report chargeable to "Fuel" is the actual expenditure during the year as fuel for this dredge was purchased previous years but not all used. Fuel to the value of about $1,110 was used during the dredging season.

ONTARIO.

DREDGE, P.W.D. No. 112 ("MATTAWA"), PROVINCE OF ONTARIO.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					2,400	6,600	9,200	12,050	11,860	10,920	2,160		55,190
Class of material					Clay.	Clay.	Clay.	Clay.	Clay.	Clay.	Clay.		
Total possible dredging time.....hrs					120	260	270	260	260	260	50		1,480 h
Total time lost.....hrs					88	186½	170½	137	128	144	7		860½
Hours actually dredging					32	73⅝	99½	123	132	116	43		619⅝
C. yds. handled per hour					75	89	93	98	90	94	80		90½

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts
Wages						782 38	592 33	640 00	629 58	584 72	218 54	50 00	3,497 55
Fuel (coal or oil)			317 08		378 33		587 69	385 66	642 67	788 98	212 03	425 72	3,738 16
Water													
Subsistence					20 00	321 85	211 90	254 50	259 40	227 75	75 70	23 20	1,394 30
Wharfage													
Pilotage													
Stores (Machinery	7 94		153 42		144 53	38 15	94 52	138 20	2 28	109 39	6 98	29 76	725 17
Stores (General			12 22		14 06	8 00	5 05	11 89	33 86	17 86		6 94	109 88
Repairs (Material	57 90		124 81	84 85	271 58	89 40	116 20	8 60	14 00	226 65	12 60	30 00	1,036 59
Repairs (Wages	57 94	19 09	190 51	7 30	480 85	317 39	43 82			133 20	3 13	73 48	1,326 71
Rental of tugs					5 00			142 50	465 00	420 00	345 00		1,377 50
Contingencies		21 05	199 99	2 28	40 95	19 45	3 00	18 40	15 25	7 50	1 70	15 30	344 87
Total Expenses	123 78	40 14	998 03	94 43	1,355 30	1,576 62	1,654 51	1,599 75	2,062 04	2,516 05	875 68	654 40	13,550 73

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Maggie K				

Rented Tugs.

Name of Tug	Employed. From	Employed. To	Locality.	Expenses. $ cts.
A. Britton's tug	April 22.		Towing coal scow	5 00
Dalton K	July 22.	July 31.	Cache Bay	142 50
Dalton K	Aug. 1.	Aug. 31.	Cache Bay	465 00
Dalton K	Sept. 1.	Sept. 30.	Cache Bay	420 00
Dalton K	Oct. 1.	Oct. 23.	Cache Bay	345 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Cache Bay	3,158 71	3,376 01	.....	1,259 22	.....	.....	654 90	99 23	936 16	1,198 18	1,377 50	311 46	12,371 37
Sturgeon Channel	96 01	102 61	.....	38 27	.....	.....	19 90	3 02	28 46	36 41	.....	9 47	334 15
Sturgeon Falls	242 83	259 54	.....	96 81	.....	.....	50 37	7 63	71 97	92 12	.....	23 94	845 21
Totals	3,497 55	3,738 16	.....	1,394 30	.....	.....	725 17	109 88	1,036 59	1,326 71	1,377 50	344 87	13,550 73

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Cache Bay	May 18	Oct. 23	Clay	52,130	1,370	559½	$22·118	0·237
Sturgeon Channel	Oct. 27	Oct. 28	Clay	900	60	17	19·655	0·371
Sturgeon Falls	Nov. 1	Nov. 5	Clay	2,160	50	43	19·655	0·391
Totals	.....	.....	.....	55,190	1,480	619½	$21·879	0·245

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Cache Bay	13	7	36	.....	.....	40	677½	.....	3	29	.....
Sturgeon Channel	.....	.....	10	.....	.....	.....	.....	.....	15	10	.....
Sturgeon Falls	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, hours	15	7	46	.....	.....	40	677½	.....	18	39	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Cache Bay	.....	.....	.....	.....	5	810½	
Sturgeon Channel	.....	.....	.....	.....	8	43	
Sturgeon Falls	.....	.....	.....	.....	5	7	
Totals, hours	.....	.....	.....	.....	18	860½	

General Remarks: Dredge put into commission at Sturgeon Falls on May 8; laid up for season at Sturgeon Falls on Nov. 13. The time lost waiting on scows and tug was unavoidable as scows had to be towed a distance of 5 miles to dumping ground.

DREDGE, P.W.D. No. 111 ("ONTARIO"), PROVINCE OF ONTARIO.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled					794	10,092	7,098	2,344	300				21,528
Class of material					Clay	Clay	Clay, sand boulders.	Sand, boulders.	Clay, gravel.				
Total possible dredging time hrs					40	260	270	260	10				840
Total time lost hrs					29	764½	131¾	202	4½				531¾
Hours actually dredging					11	95½	138¼	58	5½				308¾
C.yds. handled per hour					72	106¾	58	42	54¾				69¼

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.
Wages					79 90	534 90	554 13	531 22	338 91	24 50			2,063 56
Fuel (coal or oil)			22 70		39 00	8 35	182 39	159 51	26 25				438 20
Water													
Subsistence				9 70	90 45	178 85	195 40	187 43	76 73	55 19			793 75
Wharfage													
Pilotage													
Stores (Machinery)	1 88		267 36	226 49	23 00	1 06	4 30		59 61	3 70			578 40
Stores (General)			15 24			16 75	0 90	0 67	115 48	5 47			154 51
Repairs (Material)	1 00		742 16	231 95	361 62	142 36	2,681 23	3,921 97	99 50	320 99	1 89		8,504 67
Repairs (Wages)	100 00	107 34	543 71	644 63	572 25	11 19	189 48	112 90	161 81	52 05	50 00	50 00	2,595 36
Rental of tugs							300 00		939 58				1,239 58
Contingencies			713 79	7 82	42 16	66 59	22 99	75 22	90 49	1 92	0 50	3 49	1,024 97
Total Expenses	102 88	107 34	2,304 96	1,120 59	1,208 38	960 05	4,130 82	4,988 92	1,908 36	463 82	52 39	53 49	17,402 00

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	$ cts. Expenses.
St. Paul	All	season		

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts
A. Henning	July 13		Towing Sarnia to Kingsville	300 00
A. Henning	Aug. 28		Towing Kingsville to Port Maitland	600 00
A. Henning	Sept. 11		Port Maitland to Port Burwell	339 58

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.
Sarnia	1,014 21	215 35	.....	390 11	.....	.....	288 70	75 93	4,179 91	1,275 58	166 90	503 76	8,110 45
Kingsville	1,012 54	215 00	.....	389 47	.....	.....	288 22	75 82	4,173 02	1,273 48	466 62	502 92	8,397 09
Port Maitland	36 81	7 85	.....	14 17	.....	.....	10 48	2 76	151 74	46 30	606 06	18 29	894 46
Totals	2,063 56	438 20	.....	793 75	.....	.....	587 40	154 51	8,504 67	2,595 36	1,239 58	1,024 97	17,402 00

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Sarnia	May 27	July 8	Clay	14,534	370	151½	$53·534	$0·558
Kingsville	July 16	Aug. 17	Sand, boulders	6,694	340	151½	$55·517	1·254
Port Maitland	Sept. 1	Sept. 1	Clay, gravel	300	130	5½	$162·629	2·981
Totals				21,528	840	308¼	$56·454	0·808

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Sarnia	6½	2	1½	.....	.....	10	141½	20½	1	4½	.....
Kingsville	13¾	3½	106	4½	.....	.....	.....	.....	46½	3	.....
Port Maitland	.....	.....	30	.....	.....	.....	.....	.....	94½	.....	.....
Totals, hours	20¼	5½	137½	4½	.....	10	141½	20½	142	7½	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Sarnia	2	.....	.....	.....	29	218½	
Kingsville	8	.....	.....	.....	3½	188¾	
Port Maitland	.....	.....	.....	.....	.....	124½	
Totals, hours	10	.....	.....	.....	32½	531¼	

General Remarks: Dredge put into commission at Sarnia, Ont., on May 15; laid up for season at Port Burwell, Ont. The two scows were thoroughly rebuilt at Port Stanley; ordinary repairs to dredge and tug.

DREDGE, P. W. D. No. 115 ("OTTAWA") PROVINCE OF QUEBEC.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					7,421	17,208	22,506	3,388	19,104	14,124			83,751
Class of material					Sand, clay, boulders.	Sand, Clay, boulders.	Sand, clay, boulders.	Sand, clay.	Sand, clay, boulders, Hdpan,stone	Sand, clay, boulders.			
Total possible dredging time hrs					80	262	270	260	265½	230			1,367½
Total time lost hrs					25	154	133	235	132	111			790
Hours actually dredging					55	108	137	25	133½	119			577½
C yds handled per hour					135	159	164¼	135½	141	118⅔			145

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Wages			186 89		439 09	950 08	913 35	945 41	1,092 02	1,157 33	1,089 51	566 84	6,940 52
Fuel, Coal or Oil			44 51			1,365 62	123 24		114 04	1,714 49		64 25	3,426 15
Water									97 50	116 20		139 65	353 35
Subsistence		17 00	34 14	8 83	183 22	492 91	413 91	382 40	374 00	397 20	319 90	138 05	2,761 56
Wharfage													
Pilotage													
Stores (Machinery	3 38		221 32	266 34	24 08	186 08	118 69	152 63	245 30	2 40	71 40	6 90	1,298 52
Stores (General			22 61	11 43		33 76	16 85			5 40		1 60	91 65
Repairs (Material	577 15	171 36	2,304 89	190 50	1,300 76	2,133 44	124 48	184 07	33 38	13 53	109 00	2,877 95	10,020 51
Repairs (Wages	196 39	182 86	347 44	748 11	608 65	119 31	240 50	588 83	37 42			53 53	3,123 04
Rental of tugs		60 00			56 00					560 00	885 00		1,561 00
Contingencies	34 34	4 20	524 59	61 01			5 70	4 15			132 84	38 25	805 08
Total Expenses	811 26	435 42	3,686 39	1,286 22	2,611 80	5,281 20	1,956 72	1,857 49	1,993 66	3,966 55	2,607 65	3,887 02	30,381 38

Details of Tug Service—Tugs in attendance, and included in these operations.

Departmental Tugs.

Name of tug.	Employed. From	Employed. To	Locality.	Expenses.
Storm King	All	season.		

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
John S. Thom	April 15.	April 16.	Moving dredge and scows inner basin to Quebec	31 00
John S. Thom	April 15.		Moving tug inner basin to Quebec	5 00
A. Chevalier	May 3.		Towing, Lake St. John wharf to Levis and return	10 00
A. Chevalier	May 9.		Towing, Lake St. John wharf to Levis and return	10 00
John S. Thom	Aug. 16.	Aug. 19.	St. Irénée to Rimouski	560 00
John S. Thom	Sept. 15.	Sept. 17.	Rimouski to Pt. au Saumon	565 00
John S. Thom	Oct. 13.	Oct. 14	Port au Saumon to Crane Is	320 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.
Port au Saumon	4,428 71	2,186 21	225 47	1,762 14	.....	.....	828 58	58 48	6,394 04	1,992 80	639 02	513 68	19,029 13
Murray Bay	624 95	308 50	31 82	248 66	.....	.....	116 92	8 25	902 28	281 21	10 45	72 49	2,605 53
St. Irénée	432 66	213 58	22 02	172 15	.....	.....	80 95	5 71	624 64	194 68	7 21	50 19	1,803 79
Rimouski	829 26	409 46	42 22	329 95	.....	.....	155 15	10 95	1,197 26	373 14	573 86	96 19	4,017 34
Father Point	48 07	23 73	2 45	19 13	.....	.....	8 99	0 64	69 41	21 63	0 81	5 59	200 45
Grosse Isle	240 36	118 65	12 24	95 64	.....	.....	44 97	3 18	347 03	108 16	324 02	27 89	1,322 14
Levis	336 51	166 12	17 13	133 89	.....	.....	62 96	4 44	485 85	151 42	5 63	39 05	1,403 00
Totals	6,940 52	3,426 15	353 35	2,761 56	.....	.....	1,298 52	91 65	10,020 51	3,123 04	1,561 00	805 08	30,381 38

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Port au Saumon	May 22	June 11	Sand, clay, boulders	59,391	640	368½	51·639	·318
	July 5	July 29						
	Sept. 20	Oct. 12						
Murray Bay	June 14	July 2	Sand, clay	6,050	182	52	50·106	·430
St. Irénée	July 30	Aug. 14	Sand, clay	5,082	140	36	50·105	·354
Rimouski	Sept. 1	Sept. 13	Sand, clay, hardpan	7,220	265½	69	58·222	·556
Father Point	Sept. 15	Sept. 15	Loose stone	484	10	4	50·112	2·386
Grosse Isle	Oct. 15	Oct. 18	Sand, clay	2,662	50	20	66·107	·496
Levis	Oct. 22	Oct. 27	Sand, clay	2,862	80	28	50·107	·490
Totals				83,751	1,367½	577½	52·608	·362

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Port aux Saumons	79	27	53	.....	30	.....	.....	.....	34	21	.....
Murray Bay	17	2	35	.....	22	.....	15	.....	10	2	.....
St. Irénée	51	1	20	.....	10	.....	.....	.....	4	14	.....
Rimouski	116	5	25½	.....	27	.....	.....	.....	20	3	.....
Father Point	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Grosse Isle	.....	2	.....	.....	6	.....	.....	.....	18	4	.....
Levis	.....	.....	22	.....	10	.....	10	.....	10	.....	.....
Total, hours	263	37	155½	.....	105	.....	25	.....	102	44	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous	Total.	Remarks.
	Plant.	Boilers.					
Port aux Saumons	½	10	.....	.....	17	271½	
Murray Bay	.....	.....	.....	.....	27	130	
St. Irénée	.....	.....	.....	.....	4	104	
Rimouski	.....	.....	.....	.....	.....	196½	
Father Point	.....	.....	.....	.....	.....	6	
Grosse Isle	.....	.....	.....	.....	.....	30	
Levis	.....	.....	.....	.....	.....	52	
Total, hours	½	10	.....	.....	48	790	

General Remarks: Dredge put into commission at Quebec on May 19; laid up for season at Quebec on Dec. 24. This dredge was rented to Raymond & Talbot 19 days at $220 per day, $4,180, for work at Rimouski. The large number of hours lost through repairs at Rimouski is accounted for by the breaking of casting on stern anchor and some days elapsed before new casting could be made and replaced; large repairs made to boiler, scows thoroughly overhauled, hawsed, caulked and on one a new deck; two new forward anchors for dredge; one dipper thoroughly overhauled, also dipper arm,; tug docked, hawsed, caulked, new stern, fantail, and shaft.

DREDGE, P.W.D. No. 116 ("PROGRESS"), PROVINCE OF QUEBEC.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					13,710	23,060	33,059	32,140	30,450	21,460			153,879
Class of material					Sand, stones, timber.	Hard pan, clay, boulders, sand.	Sand	Sand.	Sand.	Sand.			
Total possible dredging time hrs					170	260	270	260	260	262			1,482
Total time lost hrs					54	58	30½	30	36	37			245½
Hours actually dredging					116	202	239½	230	224	225			1,236½
C. yds. handled per hour					118		138	139⅔	136	95⅓			130½

Details of Expenditures by Months.

Items of Expense.	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.
Wages			172 63		562 23	1,136 23	1,011 04	677 42	1,321 07	1,171 72	752 02		6,804 36
Fuel (coal or oil)		289 48	44 51			739 74	1,323 43	889 22	675 36	718 58	373 70	46 00	5,100 02
Water													
Subsistence		11 18	44 00	6 71	213 75	476 09	360 90	291 14	462 68	382 37	193 33		2,442 15
Wharfage													
Pilotage					20 00								20 00
Stores Machinery			496 26	218 86	8 23	121 39	203 64	184 90	34 94	178 27	83 63	7 85	1,537 97
Stores General		0 60	22 61	49 78	4 86	32 85			4 50	23 23			138 43
Repairs Material	1,571 54	311 91	9,047 77	329 96	3,405 85	2,242 71	404 70	206 01	44 95	23 55	15 18	815 00	18,419 13
Repairs Wages	194 76	414 84	447 89	763 00	548 33	41 49	39 96	30 52	58 93	22 12		908 04	3,469 88
Rental of tugs					45 00		155 50						200 50
Contingencies	22 40		495 71	82 97	1,038 02	7 65		8 98	5 90	57 00	124 09	28 00	1,870 72
Total Expenses	1,788 70	1,028 01	10,771 38	1,451 28	5,846 27	4,798 15	3,499 17	2,288 19	2,608 33	2,576 84	1,541 95	1,804 89	40,003 16

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Monitor	All season			
Delisle	July 15	July 25.		
	July 31.	Aug. 4		

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
John S. Thom	April 15.		Towing Graving dock to Inner Basin	25 00
John S. Thom	April 16.		Towing, Graving dock to Inner Basin	10 00
John S. Thom	April 22.		Towing, from inner Basin to Graving dock	10 00
John S. Thom	April 28.		Towing from Graving dock to inner Basin	10 00
Jackson Bros	May 25		Batiscan to Three Rivers	145 50

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.
Batiscan Wharf	346 68	259 84		124 43		20 00	78 36	7 05	938 46	176 79	2 81	95 33	2,049 75
Doucet's Landing	616 33	461 95		221 21			139 31	12 54	1,668 37	314 29	77 73	169 44	3,681 17
Three Rivers	555 80	416 60		199 48			125 62	11 31	1,504 52	283 43	77 24	152 80	3,326 80
Batiscan Channel	5,285 55	3,961 63		1,897 03			1,194 68	107 53	14,307 78	2,695 37	42 72	1,453 15	30,945 44
Totals	6,804 36	5,100 02		2,442 15		20 00	1,537 97	138 43	18,419 13	3,469 88	200 50	1,870 72	40,003 16

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Batiscan Wharf	May 12	May 21	Sand, stones, timber	7,470	90	63	$32·535	0·274
Doucet's Laading	May 25	June 9	Hard pan, clay, boulders	13,680	160	112	32·867	0·269
Three Rivers	June 10	June 24	Sand	10,580	130	101	32·938	0·314
Batiscan Channel	June 25	Oct. 30	Sand	122,149	1,102	960½	32·218	0·253
Totals				153,879	1,482	1,236½	32·351	0·259

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Batiscan Wharf	5	1				10					
Doucet's Landing	3	5	10					5	12	9	
Three Rivers	3½	1							3½	5½	
Batiscan Channel	40	34	5½	3		20	4			6	
Totals, hours	51½	41	15½	3		30	4	5	15½	20½	

Time Lost at	Cleaning.		Inspecting Boilers	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers					
Batiscan Wharf	1				10	27	
Doucet's Landing	2				2	48	
Three Rivers	3				12½	29	
Batiscan Channel	17	10			2	141½	
Totals, hours	23	10			26½	245½	

General Remarks: Dredge put into commission at Quebec on May 8; laid up for season at Ottawa on Nov. 20. Tug dry docked to put in new stern, new fantail, new tail shaft, and have hull hawsed and caulked, engines throughly overhauled. Dredge dry docked, hull hawsed and caulked, anchor slides overhauled, bucket, dipper arm and engines repaired, scows hauled up and thoroughly overhauled. Dredge brought to shipyard at Ottawa in full and hull cleaned inside; boiler removed preparatory to installing new one; A frame stiffened.

DREDGE, P.W.D. No. 117 ("QUEBEC"), PROVINCE OF ONTARIO.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					15,278	28,260	45,237	46,112	46,488	53,612	13,356		248,343
Class of material					Gumbo, clay.	Gumbo, clay, slush.	Gumbo, clay.	Gumbo, clay.	Gumbo, clay.	Gumbo, clay.	Gumbo, clay, silt.		
Total possible dredging time.....hrs					130	260	270	260	260	2 0	90		1,530
Total time lost.... hrs					65½	132	95	80	87	65¾	31½		556¾
Hours actually dredging					64½	128	175	180	173	194¼	58½		973¼
C.yds.handled per hour					238½	220¾	258½	256	269	277	230		255¼

Details of Expenditures by Months.

Items of Expense.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
Wages					533 08	901 22	1,080 46	1,191 99	1,073 86	1,194 50	1,189 12	740 62	7,904 85
Fuel (coal or oil)	408 25		29 55			895 27	699 49	693 27	537 22	928 79	864 24	56 00	5,112 08
Water													
Subsistence	6 50	4 23			213 92	351 50	426 03	378 65	357 18	377 81	358 34	274 74	2,748 90
Wharfage													
Pilotage													
Stores {Machinery	52 13		159 71	220 23	23 14	127 56	142 35	256 68	340 49	213 18	704 61	9 13	2,249 21
Stores {General	3 00		13 87	17 61	8 04		24 55	26 23		16 98	224 06		334 34
Repairs {Material	5 50	6 50	428 00	209 50	671 90	477 22	960 04	222 18		230 65	508 36	1,771 90	5,491 75
Repairs {Wages	115 00	115 00	194 51	909 17	917 82	547 94	208 91	35 76	125 98	7 11	17 88	363 34	3,558 42
Rental of tugs													
Contingencies	59 05		673 35		25 45	0 55	4 17	2 15	6 85		6 90	59 53	838 00
Total Expenses	649 43	125 73	1,498 99	1,356 51	2,393 35	3,301 26	3,546 00	2,806 91	2,441 58	2,969 02	3,873 51	3,275 26	28,237 55

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.			
Name of Tug.	Employed.		Locality.	Expenses.	Name of Tug.	Employed.		Locality.	Expenses.
	From	To		$ cts.		From	To		$ cts.
Peel	All	season.							

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
Hamilton, Oliver Plow Works	7,210 41	4,662 98	.....	2,507 41	.....	.....	2,051 62	304 97	5,009 30	3,245 81	.....	764 38	25,756 88
Hamilton, Brown's Dock	406 11	262 63	.....	141 23	.....	.....	115 55	17 17	282 13	182 81	.....	43 05	1,450 68
Burlington Beach	288 33	186 47	.....	100 26	.....	.....	82 04	12 20	200 32	129 80	.....	30 57	1,029 99
Totals	7,904 85	5,112 08	.....	2,748 90	.....	.....	2,249 21	334 34	5,491 75	3,558 42	.....	838 00	28,237 55

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Hamilton, Oliver Plow Works	May 17	June 9	Gumbo, clay	229,058	1,390	887¼	$29·013	0·112
	June 18	Nov. 3						
Hamilton, Brown's Dock	June 10	June 17	Clay, slush	12,169	80	50	29·013	0·119
Burlington Beach	Nov. 4	Nov. 10	Silt	7,116	60	35½	29·013	0·144
Totals				248,343	1,530	973¼	29·013	0·113

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Hamilton, Oliver Plow Works	160½	160½	64	.....	.....	40	18½	.....	23¼	.....	9
Hamilton, Brown's Dock	6	12	.....	.....	.....	.....	.....	.....	5	5	2
Burlington Beach	2	5½	9	.....	.....	.....	.....	.....	5	3	.....
Totals, hours	168½	178	73	.....	.....	40	18½	.....	33¼	8	11

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Hamilton, Oliver Plow Works	12½	10	.....	.....	4	502¼	
Hamilton, Brown's Dock	.....	.....	.....	.....	.....	30	
Burlington Beach	.....	.....	.....	.....	.....	24½	
Totals, hours	12½	10	.....	.....	4	556¾	

General Remarks: Dredge put into commission at Hamilton, Ont., on May 15; laid up for season at Toronto, Ont., on Dec. 13.

DREDGE, P.W.D. No. 118 ("QUEEN"), PROVINCES OF ONTARIO AND QUEBEC:

Details of Material and Time by Months.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October	November.	December.	Total
Cubic yards handled					888	6,364	7,041	4,065	3,877	6,384	570	.....	29,189
Class of material					Clay.	Clay	Clay	Clay, rocks, hard pan.	Clay, rocks, hard pan.	Clay	Clay.	.....	
Total possible dredging time hrs					40	260	270	260	260	260	30	.....	1,380
Total time lost hrs					5	45½	53	100½	84	63	6	.....	357
Hours actually dredging					35	214½	217	159½	176	197	24	.....	1,023
C.yds. handled per hour					25⅓	29¾	32½	25½	22	32½	24	.....	28½

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.
Wages						640 82	520 98	494 13	516 15	555 00	359 57	.....	3,086 65
Fuel (coal or oil)			19 70			545 37		554 20				.....	1,119 27
Water												.....	
Subsistence				2 90	11 10	222 95	201 75	189 00	192 00	189 00	88 60	.....	1,097 30
Wharfage												.....	
Pilotage												.....	
Stores Machinery			122 34	158 67	125 37	69 35	6 57	63 14	2 04		5 88	.....	553 36
Stores General			3 26	33 54		38 05			10 49	10 29		.....	95 63
Repairs Material	57 00	50 56	130 24	102 73	1,803 33	606 99		11 01	164 66	342 39		12 54	3,281 45
Repairs Wages	201 25		122 85		272 17	1,652 67	146 60	546 60	142 51	164 66	3 70	161 26	3,414 27
Rental of Tugs												.....	
Contingencies	39 45		180 54		19 65				4 38	42 33	47 85	6 75	340 95
Total Expenses	297 70	50 56	578 93	297 84	2,231 62	3,776 20	875 90	1,858 08	1,032 23	1,303 67	505 60	180 55	12,988 88

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Dora	All	season							

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts.
Lorraine	297 19	107 77	.....	105 65	.....	.....	53 28	9 21	315 96	328 74	.....	32 83	1,250 63
Ville Marie	1,848 07	670 14	.....	656 99	.....	.....	331 31	57 26	1,964 70	2,044 22	.....	204 14	7,776 83
Haileybury	850 87	308 54	.....	302 48	.....	.....	152 54	26 36	904 56	941 18	.....	93 98	3,580 51
Haileybury Shipyard	90 52	32 82	.....	32 18	.....	.....	16 23	2 80	96 23	100 13	.....	10 00	380 91
Totals	3,086 65	1,119 29	.....	1,097 30	.....	.....	553 36	95 63	3,281 45	3,414 27	.....	340 95	12,988 88

Expenses Working at	Time Working.		Kind of material.	No. C Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Lorraine	May 27	June 9	Clay	2,479	120	98½	$12·696	0·504
Ville Marie	June 10	Aug. 10	.....	.....	.....	.....	.....	.....
	Sept. 30	Oct. 28	Clay	19,641	790	612½	12·696	0·395
Haileybury	Aug. 11	Sept. 28	Rocks, hard pan, clay	6,347	420	282	12·696	0·564
Haileybury Shipyard	Oct. 30	Nov. 3	Clay	722	50	30	12·697	0·527
Totals	.....	.....	.....	29,189	1,380	1,023	12·696	0·444

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Lorraine	.....	½	.....	.....	.....	10	.....	.....	3	.....	.....
Ville Marie	11	14	42	.....	.....	20	24½	.....	10	33½	.....
Haileybury	65	11	25	.....	.....	10	.....	.....	6	13	1
Haileybury Shipyard	2	1	4	.....	.....	.....	.....	.....	6	.....	.....
Totals, hours	78	28½	71	.....	.....	40	24½	.....	25	46½	1

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks
	Plant.	Boilers.					
Lorraine	2	.....	.....	.....	4	21½	
Ville Marie	10½	.....	.....	.....	12	177½	
Haileybury	3	.....	.....	.....	4	138	
Haileybury Shipyard	.....	.....	.....	.....	7	20	
Totals, hours	15½	.....	.....	.....	27	357	

General Remarks: Dredge put into commission at Haileybury on May 22; laid up for season at Haileybury on Nov. 12. Both scows hauled, hawsed and caulked, hull of tug rebuilt as required, new boiler installed and cabin rebuilt, ordinary repairs to dredge.

DREDGE, P.W.D. No. 119 ("RICHELIEU"), PROVINCE OF QUEBEC

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled					2,871	4,901	4,756	1,364	1,394	4,016	1,523		20,825
Class of material					Clay, sand.	Clay, sand.	Clay, sand.	Hard pan ..	Hard pan, clay, sand, boulders.	Sand, clay, boulders, rock.	Hard pan, sand, clay, boulders. rock.		
Total possible dredging time. hrs					130	260	270	260	260	260	141		1,581
Total time lost . . hrs					45¾	110½	70½	91	177	115½	84		694¼
Hours actually dredging					84¼	149½	199½	169	83	144½	57		886¼
C.yds.handled per hour					34	33	24	8	17	28	27		23½

Details of Expenditures by Months.

Items of Expense.	January.	February.	March.	April.	May.	June	July.	August.	September.	October.	November.	December	Total.
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages			172 63		221 93	374 66	445 40	467 68	270 05	567 66	487 73	75 00	3,082 74
Fuel (coal or oil)			41 78	172 48				732 96	120 05	182 00	112 70	98 00	1,459 97
Water													
Subsistence	35 38		34 15		139 13	179 47	51 88	97 15	442 42	335 17	149 50	15 00	1,479 25
Wharfage									Caughnawaga.		Isle Perrot.		
Pilotage								43 00		40 00			83 00
Stores {Machinery	9 23	7 00	155 87		69 04	177 85	24 21	65 05	43 69	10 00	8 00		569 94
Stores {General	4 18		24 78	3 98	6 72		0 90		13 48	4 23			58 27
Repairs {Material	347 42	124 80	850 20	179 11	186 30	107 81	319 59	112 00	90 01	103 64	255 05	176 56	2,852 49
Repairs {Wages	294 74	557 91	605 31	464 59	379 75	373 56	117 44	141 55	704 02	299 87	11 54	51 62	4,001 99
Rental of tugs									180 00				180 00
Contingencies		42 00	454 96	21 10	12 67	3 20	34 50	28 01		53 84	23 60	2 15	676 03
Total Expenses	690 95	731 71	2,339 68	841 26	1,015 54	1,216 55	993 92	1,687 40	1,863 72	1,596 41	1,048 12	418 33	14,443 59

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts.					$ cts.
Ottawa	May 17..	Oct. 27.			Str. *Hudson*	July 19..	July 30..	Berthier to Montreal	180 00
	Nov. 8 ..	Nov. 17..							
Lion Blanche	May 17..	Sept. 25 ..							
	Oct. 4 ..	Nov. 6 ..							

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wage.	Fuel	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts.
D'Autray	1,236 75	585 72	.....	593 45	.....	.....	228 65	23 38	1,144 37	1,605 50	.....	271 21	5,689 03
Caughnawaga	867 37	410 78	.....	416 21	.....	43 00	160 36	16 39	802 59	1,125 99	180 00	190 21	4,212 90
Isle Perrot	849 99	402 55	.....	407 87	.....	40 00	157 15	16 07	786 51	1,103 43	.....	186 40	3,949 97
Longueuil	128 63	60 92	.....	61 72	.....	.....	23 78	2 43	119 02	166 98	.....	28 21	591 69
Totals	3,082 74	1,459 97	.....	1,479 25	.....	83 00	569 94	58 27	2,852 49	4,001 90	180 00	676 03	14,443 59

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
D'Autray	May 17	July 19	Clay, sand	11,484	550	355¾	$15·991	0·495
Caughnawaga	July 21	Sept. 1	Sand, hard pan	2,423	480	249½	16·885	1·738
Isle Perrot	Sept. 15	Nov. 6	Sand, clay, boulders	6,073	470	244½	16·155	0·650
Longueuil	Nov. 10	Nov. 17	Rock, hard pan	845	81	37	15·991	0·700
Totals				20,825	1,581	886¾	16·288	0·693

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
D'Autray	155	2¾	27	.....	.....	.....	½	.....	5	.....	.....
Caughnawaga	181½	1½	.....	.....	.....	10	½	.....	15	4	3
Isle Perrot	36½	9	19	3	.....	10	70½	.....	7	8	5
Longueuil	.....	5	2	.....	.....	.....	11	2	21	.....	1
Totals, hours	373	18¼	48	3	.....	20	82½	2	48	12	9

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
D'Autray	.....	.....	.....	.....	4	194¼	
Caughnawaga	3	.....	.....	.....	15	230½	
Isle Perrot	5	6	6	.....	44	225½	
Longueuil	1	.....	.....	.....	2	44	
Totals, hours	9	6	6	.....	65	694¼	

General Remarks: Dredge put into commission at Chambly on May 10 laid up for season at Montreal on Dec 11. The excessive oss of time due to repairs at Caughnawaga is accounted for by breaking of dipper arm and repairs made to anchors. The material removed being very hard.

DREDGE, P.W.D. No. 120 ("SIR RICHARD"), PROVINCE OF ONTARIO.

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December	Total.
Cubic yards handled					2,155	12,775	10,654	11,210	11,780	11,200	150		59,924
Class of material					Sand, silt, clay.	Sand, silt, clay.	Sand.	Sand, mud.	Sand, mud, clay, gravel	Mud, sand, clay.	Mud, sand.		
Total possible dredging time. hrs					30	260	270	260	260	260	30		1,370
Total time lost. hrs					4	97	85	102½	122	146	28		584½
Hours actually dredging					26	163	185	157½	138	114	2		785½
C.yds. handled per hour					83	78½	58	71½	85½	98	75		76

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages					52 10	554 77	535 04	517 38	542 11	554 66	450 85	35 25	3,242 16
Fuel (coal or oil)			19 70		143 48		353 32	142 63	7 00	309 09	6 60	63 75	1,045 57
Water													
Subsistence					88 33	188 10	173 15	182 75	191 86	232 86	149 74	36 69	1,243 48
Wharfage													
Pilotage											93 67	78 10	171 77
Stores (Machinery	2 64		85 88	254 64	263 05		17 51	172 47	71 60	23 63	18 48	11 13	921 03
Stores (General			12 24		35 28		5 58	1 13	105 00	0 50	57 21		216 94
Repairs (Material	75 40		2,627 99	484 49	425 12	4,476 58	63 39	223 25	42 78	42 04	577 42	224 22	9,262 68
Repairs (Wages	121 00	100 00	176 70	56 87	1,006 81	42 72	28 19	93 46	236 57	197 86	563 23	1,288 72	3,912 13
Rental of tugs						190 00	190 00			100 00			480 00
Contingencies	97 50	29 65	791 73	39 70	16 75	6 25	6 72	6 70	34 50	10 30	103 55	1 24	1,144 59
Total Expenses	296 54	129 65	3,714 24	835 70	2,030 92	5,458 42	1,372 90	1,339 77	1,231 42	1,470 94	2,020 75	1,729 10	21,640 35

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
Trudeau	All season.			

RENTED TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts.
Earl Bess	May 26.		Port Stanley to Rondeau	190 00
A. Heming	June 22.		Rondeau to Port Stanley	190 00
A. Heming	Sept. 26.		Port Stanley to Port Burwell	100 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wage.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.
Rondeau	586 11	189 01	.....	224 79	.....	31 05	166 50	39 22	1,674 47	707 22	190 00	206 92	4,015 29
Port Stanley	2,098 84	676 86	.....	804 98	.....	111 20	596 24	140 44	5,996 28	2,532 55	190 00	740 96	13,888 35
Port Burwell	557 21	179 70	.....	213 71	.....	29 52	158 29	37 28	1,591 93	672 36	100 00	196 71	3,736 71
Totals	3,242 16	1,045 57	.....	1,243 48	.....	171 77	921 03	216 94	9,262 68	3,912 13	480 00	1,144 59	21,640 35

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Rondeau	May 28	June 18	Sand, silt, clay	12,230	190	142	$28·276	0·328
Port Stanley	June 24	Sept. 24	Sand, mud, clay, gravel	34,444	840	508½	27·312	0·403
Port Burwell	Sept. 23	Nov. 3	Mud, sand, clay	13,250	340	135	27·679	0·282
Totals				59,924	1,370	785½	27·549	0·361

EXPLANATION OF UNAVOIDABLE LOSS OF TIME

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Rondeau	5	8	12	.....	4	10	.....	6	.....	2	.....
Port Stanley	71	19½	137	.....	.....	20	.....	.....	20	10	5
Port Burwell	7	2½	144	.....	.....	10	.....	.....	25½	5	.....
Totals, hours	83	30	293	.....	4	40	.....	6	45½	17	5

Time Lost at	Cleaning.		Inspecting Boilers	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Rondeau	1	.....	.....	.....	2	48	
Port Stanley	3	20	10	.....	16	331½	
Port Burwell	2	.....	.....	.....	9	205	
Totals, hours	6	20	10	.....	27	584½	

General Remarks: Dredge put into commission at Port Burwell on May 22; laid up for season at Port Burwell on Nov. 20. Old machinery taken out and shipped to Ottawa and preparations made to install machinery taken out of dredge No. 105.

DREDGE, P.W.D. No. 121 ("ST. LOUIS"), PROVINCE OF QUEBEC.

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					2,855	2,698	2,954	2,933	682	2,220	735		15,077
Class of material					Gravel, stone, boulders, quick sand, clay.	Sand, clay, boulders, gravel, stone, hard pan.	Gravel, sand, stone, boulders, rock, hard pan.	Hard pan, boulders.	Stones, boulders.	Stones, boulders.	Hard pan, boulders.		
Total possible dredging time...hrs					229	308½	329	260	260	260	100		1,746½
Total time lost...hrs					73	139	93	70	113	43½	53		584½
Hours actually dredging					156	169½	236	190	147	216½	47		1,162
C.yds.handled per hour													

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages					440 79	446 81	515 37	498 19	394 20	524 42	415 16	32 26	3,267 20
Fuel (coal or oil)			19 70			265 01	271 19	150 77	241 62		289 90		1,238 19
Water													
Subsistence			2 25	23 07	231 53	175 70	207 18	173 50	168 00	182 04	126 50	21 79	1,311 56
Wharfage													
Pilotage													
Stores {Machinery			84 39	66 39	95 98	4 80	4 80	67 68	65 51	1 28	18 58		409 41
Stores {General			3 26	26 28	4 44	3 00		15 37	12 11	4 00			68 46
Repairs {Material	64 58	18 05	145 50	175 87	343 83	1 20	301 86	658 72	113 36	77 87		254 12	2,1[illegible] 96
Repairs {Wages	150 00	100 00	219 73	347 41	169 49	285 20	398 31	131 42	616 06	63 35	9 67	137 09	2,627 73
Rental of tugs													
Contingencies	13 10		182 54	9 56	24 70	3 27	26 60	24 95		4 44	24 75	10 97	324 88
Total Expenses	227 68	118 05	657 37	648 58	1,310 76	1,184 99	1,725 31	1,720 60	1,610 86	857 40	884 56	456 23	11,402 39

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.					RENTED TUGS.				
Name of Tug.	Employed.		Locality.	Expenses.	Name of Tug.	Employed.		Locality.	Expenses.
	From	To				From	To		
	All season.			$ cts					$ cts.
Mina G									

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
Verdun, Gt. T. B. Club	1,547 84	586 59	.....	621 35	.....	.....	193 96	32 43	1,020 92	1,244 89	.....	153 91	5,401 89
Verdun, City Wharf	565 15	214 18	.....	226 87	.....	.....	70 82	11 84	372 76	454 54	.....	56 20	1,972 36
Verdun, La Tortue	1,154 21	437 42	.....	463 34	.....	.....	144 63	24 19	761 28	928 30	.....	114 77	4,028 14
Totals	3,267 20	1,238 19	.....	1,311 56	.....	.....	409 41	68 40	2,154 96	2,627 73	.....	324 88	11,402 39

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Verdun, Gt. T. B. Club	May 7	July 28	Gravel, stone, boulders, sand, clay, rock, hard pan	8,372	835	550½	$9·812	0·645
Verdun, City Wharf	July 29	Aug. 27	Gravel, stone boulders, hard pan	3,068	271½	201	9·812	0·642
Verdun, La Tortue	Sept. 2	Nov. 11	Boulders, stone, hard pan	3,637	640	410½	9·812	1·107
Totals				15,077	1,746½	1,162	9·812	0·756

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Verdun, Gt. T. B. Club	163	11	4	.....	.....	20	61	.....	5½	10	.....
Verdun, City Wharf	44½	5	.....	.....	.....	.....	1	.....	7	2	.....
Verdun, La Tortue	93½	11	33	.....	.....	30	.....	.....	38	7	.....
Totals, hours	301	27	37	.....	.....	50	62	.....	50½	19	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Verdun, Gt. T. B. Club	5	5	.....	.....	.....	284½	
Verdun, City Wharf	3	8	.....	.....	.....	70½	
Verdun, La Tortue	1	5	.....	.....	11	229½	
Totals, hours	9	18	.....	.....	11	584½	

General Remarks: Dredge put into commission at Verdun on May 6; laid up for season at Verdun on Nov. 30.

DREDGE, P.W.D. No. 122 ("ST. MAURICE"), PROVINCE OF QUEBEC.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total
Cubic yards handled							2,140	6,358	5,845				14,343
Class of material							Sand, clay.	Sand, clay.	Sand, gravel				
Total possible dredging time. hrs							230	260	240				730
Total time lost hrs							149	100½	94½				344
Hours actually dredging							81	159½	145½				386
C.yds. handled per hour							26½	39	40				37

Details of Expenditures by Months

Items of Expense.	January. $ cts	February. $ cts	March. $ cts	April. $ cts	May. $ cts	June. $ cts	July. $ cts	August. $ cts	September. $ cts	October. $ cts.	November. $ cts	December $ cts.	Total $ cts.
Wages								644 55	387 00	202 42	463 40	771 09	2,468 46
Fuel (coal or oil)							144 88	159 75		182 28		204 90	691 81
Water													
Subsistence							2 00	21 75	332 65	157 68	64 10	194 20	772 38
Wharfage													
Pilotage													
Stores (Machinery							75 81	121 61	28 40	79 55	16 94	14 55	140 57	477 43
Stores (General							8 80	10 85		17 85	2 45	9 15	49 10
Repairs (Material	262 28				459 27	385 41	270 97	25 16	40 60	62 15	8 25	270 61	1,793 70
Repairs (Wages	497 59	50 00	50 00		607 40	664 10	665 86	183 83	43 00			76 58	2,838 36
Rental of tugs													
Contingencies	3 25					5 40		36 90	3 75		16 50	2 97	68 77
Total Expenses	763 12	50 00	50 00		1,066 67	1,286 40	1,100 04	1,411 24	729 43	530 34	502 70	1,670 07	9,160 01

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts	Name of Tug	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Annette	All	season.							

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts
Isle aux Morpions	799 37	224 03		250 12			154 61	15 90	580 86	919 16		22 27	2,966 32
Traverse à Ricard	738 62	207 01		231 12			142 86	14 69	536 72	849 30		20 58	2,740 90
Pte. à Trudel	306 96	86 03		96 04			59 37	6 11	223 05	352 96		8 55	1,139 07
Ile aux Fraises	623 51	174 74		195 10			120 59	12 40	453 07	716 94		17 37	2,313 72
Totals	2,468 46	691 81		772 38			477 43	49 10	1,793 70	2,838 36		68 77	9,160 01

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Isle aux Morpions	July 6	Aug. 7	Sand, clay	3,548	290	125	$23·730	0·836
Traverse à Ricard	Aug. 11	Aug. 28	Sand	4,950	180	115½	23·730	0·553
Pte. à Trudel	Sept. 2	Sept. 9	Sand	1,760	100	48	23·730	0·647
Ile aux Fraises	Sept. 10	Sept. 28	Sand, gravel	4,085	160	97½	23·730	0·566
Totals				14,343	730	386	23·730	0·638

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Isle aux Morpions	119	26			10						
Traverse à Ricard	20	6			1						
Pte. à Trudel	17	3							20		
Ile aux Fraises	9	27	22½						30		
Totals, hours	165	62	22½		11				50		

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Isle aux Morpions				3	7	165	
Traverse à Ricard				6½	11	64½	
Pte. à Trudel					2	52	
Ile aux Fraises	2				2	62½	
Totals, hours	2			9½	22	344	

General Remarks: Dredge put into commission at Pte. Madeleine on June 29; laid up for season at Pte. Madeleine on Oct. 16.

DREDGE, P.W.D. No. 123 PROVINCE OF QUEBEC

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					3,000	6,924	6,575	4,400	4,720	8,000	1,120		34,739
Class of material					Hard pan, boulders.	Hard pan, boulders.	Hard pan, boulders.	Hard pan, boulders.	Hard pan, boulders.	Hard pan, boulders.	Hard pan, boulders.		
Total possible dredging time hrs					120	260	270	260	260	260	60		1,490
Total time lost hrs					36	82½	57	52	60	41	9		337½
Hours actually dredging					84	177½	213	208	200	219	51		1,152
C.yds. handled per hour					35¾	39	30¾	21	23½	36½	22		30

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Wages			172 63		256 13	606 00	639 03	622 61	625 54	594 94	723 24	57 89	4,298 01
Fuel (coal or oil)			102 16		257 60		311 15	287 70	337 58	391 83	21 00		1,709 02
Water													
Subsistence			45 31		149 29	245 02	209 90	211 60	229 51	209 50	194 10	12 00	1,506 23
Wharfage													
Pilotage													
Stores (Machinery			217 51	8 34	337 39	88 95	244 80	63 40	355 28	12 13	121 86	5 50	1,455 16
Stores (General			26 77		10 78			0 28	1 63	1 00		4 23	44 69
Repairs (Material	122 83	103 81	389 85	114 00	472 47	102 88	184 74	140 76	6 79	489 41	156 10	300 55	2,584 19
Repairs (Wages	329 00	469 04	316 66	1,136 37	531 23	211 36	133 64	210 99	360 83	122 69	3 59	764 33	4,589 73
Rental of tugs													
Contingencies	28 90		436 38	38 35	0 75	5 20	5 21	14 68	1 25	48 50	58 72	21 95	659 89
Total Expenses	480 73	572 85	1,707 27	1,297 06	2,015 64	1,259 41	1,728 47	1,552 02	1,918 41	1,870 00	1,278 61	1,166 45	16,846 92

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.			
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts	Name of Tugs.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Fashion	All season.								
Blanche	June 2.	June 10.							

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ste. Anne de Bellevue	4,298 01	1,709 02	.....	1,506 23	.....	.....	1,455 16	44 69	2,584 19	4,589 73	.....	659 89	16,846 92
Totals	4,298 01	1,709 02	.....	1,506 23	.....	.....	1,455 16	44 69	2,584 19	4,589 73	.....	659 89	16,846 92

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Horse-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Ste. Anne de Bellevue	May 18	Nov. 6	Hardpan, boulders, Rock, sandstone in layers.	34,739	1,490	1,152½	$14·617	0·484
Totals	.....	.....	.....	34,739	1,490	1,152½	$14·617	0·484

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Ste. Anne de Bellevue	221	7	8½	.....	.....	40	.....	.....	.....	26	.....
Totals, hours	221	7	8½	.....	.....	40	.....	.....	.....	26	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Ste. Anne de Bellevue	17	.....	10	.....	8	337½	The total quantity place measurement removed—24·320 cu. yds.=19·360 cu. yds. of ordinary material 4·960 cu. yds. reck.
Totals, hours	17	.....	10	.....	8	337½	

General Remarks: Dredge put into commission at Ste. Anne de Bellevue on May 13; laid up for season at Ottawa, Ont., on Dec. 4.

DREDGE, P.W.D. No. 124, PROVINCES OF QUEBEC AND ONTARIO.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						1,973	83						2,056
Class of material						Clay, hard pan.	Sawdust, stones.						
Total possible dredging time hrs						230	160						390
Total time lost hrs						94	117						211
Hours actually dredging						136	43						179
C.yds.handled per hour						14½	2						11½

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts
Wages						190 67	7 00	59 35	2 50				259 52
Fuel (coal or oil)			19 70		8 00	180 00							207 70
Water													
Subsistence					66 15	81 05	20 03	11 50	3 64				182 37
Wharfage													
Pilotage													
Stores (Machinery			62 34		238 71	52 42	4 96						358 43
Stores (General			3 26		22 80	1 50							27 56
Repairs (Material	34 15				130 42	46 37							210 94
Repairs (Wages	120 23	40 00	46 13		355 12	191 41	150 89						903 78
Rental of tugs	15 00					75 00	18 00						108 00
Contingencies	1 00		14 93		2 50	36 25	13 00		7 80				75 48
Total Expenses	170 38	40 00	146 36		823 70	854 67	213 88	70 85	13 94				2,333 78

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Witherbee	June 28	June 30	Towing plant to Montreal	
Delisle	June 30	July 3	Towing plant to Ottawa	

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
S.S. "Colin R."	June 1		Towing from Waynagamack Is. to Maskinonge	75 00
Sorel Harbour tug.	June 29		Maskinonge to Sorel	18 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts.
River Bois Blanc	171 75	157 80	.....	134 00	.....	.....	272 33	20 93	160 26	576 59	82 05	51 42	1,627 13
Ottawa V. I. Shipyard	54 30	49 90	.....	42 37	.....	.....	86 10	6 63	50 68	182 31	25 95	16 26	514 50
Dismantling dredge at Ottawa	33 47	.....	.....	6 00	.....	.....	.....	.....	.....	144 88	.....	7 80	192 15
Totals	259 52	207 70	.....	182 37	.....	.....	358 43	27 56	210 94	903 78	108 00	75 48	2,333 78

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
River Bois Blanc	June 4	June 25	Clay, hard pan	1,973	200	136	$11·964	0·824
Ottawa V. I. Shipyard	July 9	July 19	Sawdust, stones	83	240	43	11·964	6·198
Dismantling dredge at Ottawa	.....	.....	.....	.....	.....	.....	.....	.....
Totals	.....	.....	.....	2,056	440	179	11·964	1·041

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
River Bois Blanc	31	19	.....	.....	.....	.....	.....	10	.....	.....	.....
Ottawa V. I. Shipyard	28	14	.....	.....	.....	5	5	30	60	.....	.....
Totals, hours	59	33	.....	.....	.....	5	5	40	60	.....	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
River Bois Blanc	2	2	.....	.....	.....	64	
Ottawa V. I. Shipyard	.....	.....	.....	.....	5	147	
Totals, hours	2	2	.....	.....	5	211	

General Remarks: Dredge put into commission at Three Rivers on May 1; laid up for season at Ottawa on July 31.

P.W.D. STEAM DERRICK, PROVINCE OF QUEBEC.

Details of material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					700								700
Class of material					Clay, rocks.	Pile driving							
Total possible dredging time hrs					100	130							230
Total time lost hrs					6	62							68
Hours actually dredging					94	68							162
C.yds.handled per hour					7¼								

Details of Expenditures by Months.

Items of Expense.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ .cts.	$ cts.	$ cts.	$ cts.
Wages						125 83						127 00	252 83
Fuel (coal or oil)						36 00							36 00
Water													
Subsistence	1 25					45 00						57 32	103 57
Wharfage													
Pilotage													
Stores (Machinery					14 84							12 61	27 45
Stores (General						5 50						26 25	31 75
Repairs (Material	49 38		15 05			38 82					68 36		171 61
Repairs (Wages				305 00		140 00							445 00
Rental of tugs						35 00							35 00
Contingencies						23 00						1 00	24 00
Total Expenses	50 63		15 05	305 00	14 84	449 15					68 36	224 18	1,127 21

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.				Renter Tugs.			
Name of Tug.	Employed: From	Employed: To	Locality.	Expenses.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts.					$ cts
					"*Ha Ha*"	May 29		St. Fulgence	25 00
					"*Ha Ha*"	May 4		Riv. du Moulin to Chicoutimi Wharf	10 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.
St. Fulgence	146 70	20 89	.....	60 10	.....	.....	15 92	18 43	99 58	258 21	35 00	13 92	668 75
St. Anne	106 13	15 11	.....	43 47	.....	.....	11 53	13 32	72 03	186 79	.....	10 08	458 46
Totals	252 83	36 00	.....	103 57	.....	.....	27 45	31 75	171 61	445 00	35 00	24 00	1,127 21

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
St. Fulgence	May 18	May 28	Clay, rocks	700	100	94	$7·114	0·955
St. Anne	May 29	June 12	Pile driving	.....	130	68	6·742	
Totals	.....	.....	.....	700	260	162	6·957	

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
St. Fulgence	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....
St. Anne	.....	.....	.....	.....	22	.....	.....	.....	40	.....	.....
Totals, hours	.....	.....	.....	.....	28	.....	.....	.....	40	.....	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
St. Fulgence	.....	.....	.....	.....	.....	6	
St. Anne	.....	.....	.....	.....	.....	62	
Totals, hours	.....	.....	.....	.....	.....	68	

General Remarks: Dredge put into commission at Chicoutimi on April 30; laid up for season at Chicoutimi on Nov. 15. No expenditure was incurred by the Department for steam derrick during period June 14th to Nov. 6th, when plant was engaged by the Chicoutimi Pulp & Paper Company, the company paying all expenses. During this time the plant worked 681 hrs. removing 14,550 cu. yds.

STONELIFTER No. 101, PROVINCE OF QUEBEC.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled							329	513	195				1,037
Class of material							Boulders...	Boulders....	Boulders....				
Total possible dredging time. hrs							120	260	240				620
Total time lost hrs								10	82				92
Hours actually dredging							120	250	158				528
C.yds.handled per hour							2¾	2	1¼				2

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts.
Wages								285 64	446 61	378 15	93 71	385 54	1,589 65
Fuel (coal or oil)										7 55		102 46	110 01
Water													
Subsistence								103 10	190 50	185 28	6 50	97 10	582 48
Wharfage													
Pilotage													
Stores Machinery								23 66	13 78	16 36		65 30	119 10
Stores General								5 90	165 05	58 00		2 68	231 63
Repairs Material								72 41		17 80		135 30	225 51
Repairs Wages	100 00	50 00	50 00	50 00	50 00	50 00	243 45			54 02		71 92	719 39
Rental of tugs													
Contingencies								2 00	33 90	4 00	26 19	1 48	67 57
Total Expenses	100 00	50 00	50 00	50 00	50 00	50 00	243 45	492 71	849 84	721 16	126 40	861 78	3,645 34

Details of Tug Service—Tugs in attendance, and included in these operations

Department Tugs.				Rented Tugs.			
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts	Name of Tug.	Employed. From / To	Locality.	Expenses. $ cts.
Annette								

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts
St. Maurice River	1,589 65	110 01	.....	582 48	.....	.....	119 10	231 63	225 51	719 39	.....	67 57	3,645 34
Rapid Manigonce													
Totals	1,589 65	110 01	.....	582 48	.....	.....	119 10	231 63	225 51	719 39	.....	67 57	3,645 34

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per cubic Yard.
	From	To						
St. Maurice River, Rapid Manigonce	July 19	Oct. 28	Boulders	1,037	620	528	$6·904	$3·515
Totals	.....	.....	.....	1,037	620	528	$6·904	$3·515

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
St. Maurice River, Rapid Manigonce	30	10	10	.....	.....	.....	.....	.....	4	4	.....
Totals, hours	30	10	10	.....	.....	.....	.....	.....	4	4	

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
St. Maurice River, Rapid Manigonce	.....	.....	.....	.....	34	92	
Totals, hours	.....	.....	.....	.....	34	92	

General Remarks: Dredge put into commission at St. Jean des Piles on July 14; laid up for season at St. Jean des Piles on Oct. 9.

DREDGE, P.W.D. No. 201 ("ASSINIBOINE"), PROVINCE OF MANITOBA.

Details of Material and Time by Months.

Items.	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled					19,540	23,818	28,796	36,108	41,324	31,098			180,684
Class of material					Sandy clay.	Sandy clay.	Sandy clay.	Sandy clay, sand and clay.	Soft clay, sand and gravel.	Sandy clay, and gravel.			
Total possible dredging time hrs					260	260	270	260	260	260			1,570
Total time lost hrs					142	123	102	76	49	85			577
Hours actually dredging					118	137	168	184	211	175			993
C.yds.handled per hour					165·6	173·9	171·4	196·2	195·9	177·7			182

Details of Expenditures by Months.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.
Wages					500 00	500 00	500 00	500 00	500 00	500 00			3,000 00
Fuel (coal or oil)				417 76		245 50	270 64		211 18	246 43			1,391 51
Water													
Subsistence					243 20	243 00	252 00	252 00	238 00	242 40			1,471 58
Wharfage													
Attendance Inspector												1,109 31	1,109 31
Stores Machinery					64 80	37 59	74 49	10 76	1 30	29 99			218 93
Stores General					72 65	3 05		7 70		2 00		23 50	108 90
Repairs Material	4 74	3 45	69 46	399 08	182 67	153 22	27 13	226 16	25 13	103 07	25 25	26 85	1,245 21
Repairs Wages	42 62			229 49		162 06	59 85	38 94	85 00	113 57	302 49	150 00	1,184 02
Rental of tugs													
Contingencies													
Total Expenses	47 36	3 45	69 46	1,046 33	1,063 32	1,344 42	1,184 11	1,035 14	1,061 01	1,237 46	327 74	1,309 66	9,729 46

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.

Name of Tug.	Employed.	Expenses.
"Vaughan"	Employed in attendance and inspection aying out work and handling supplies pro rata for the season	$1,109 31
"J. A. Montgomery"		
"Ruby"		
Gasoline launch		
		$1,109 31

Rented Tugs.

Name of Tug.	Employed.	Expenses.
	Credits.	
"Vaughan"	Towing coal barge from Dauphin river to Selkirk in connect on with Sturgeon Bay survey	$150 00
	Removing buoys in Red River for Dept. Naval Service	40 00
"J. H. Montgomery"	Hire of tug, etc., to Dept. Indian Affairs	401 30
	Hire of tug, etc., Sturgeon Bay survey	320 00
"Ruby"	Hire of tug Sturgeon Bay survey	620 00
	Hire of coal barge Sturgeon Bay survey	254 00
	Repairs to "*Lady of the Lake*" Dept. Naval Service	27 00
	12 tons coal supplied to Dept. of Naval Service, construction No. 54 for C.G.S. *Bradbury*	73 56

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Attendance. Inspection	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
Red River New Channel Red River, New Channel	1,425 99	661 43	.....	699 49	.....	527 29	104 06	51 76	591 89	562 80	.....	.....	4,624 71
Red River, The Forks	78 54	36 43	.....	38 52	.....	29 04	5 73	2 85	32 60	31 00	.....	.....	254 71
Red River, Middle Ground Red River, Middle Ground	1,495 47	693 65	.....	733 57	.....	552 98	109 14	54 29	620 72	590 22	.....	.....	4,850 04
Selkirk, Slough	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	3,000 00	1,391 51	.....	1,471 58	.....	1,109 31	218 93	108 90	1,245 21	1,184 02	.....	.....	9,729 46

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Red River, New Channel	May 1	Aug. 12	Sandy clay	80,730	914	472	$9 80	0·057
Red River, New Channel	Oct. 26	Oct. 28						
Red River, The Forks	Aug. 13	Aug. 16	Sand	4,643	28	26	9 80	0·053
Red River, Middle Ground	Aug. 16	Oct. 25	Clay, sand and gravel	95,311	617	495	9 80	0·051
Red River, Middle Ground	Oct. 29	Oct. 30						
Selkirk, Slough	Oct. 28	Oct. 29	Pumping out barges	.....	11	.....	.....	.....
Totals	.....	.....	.....	180,684	1,570	993	9 80	0·054

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Red River, New Channel	9	.....	231	.....	.....	20	.....	.....	77	26	.....
Red River, The Forks	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Red River, Middle Ground	29	.....	4	.....	5	10	.....	.....	2	24	.....
Selkirk Slough	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, hours	38	.....	235	.....	5	30	.....	.....	79	50	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Red River, New Channel	.....	7	10	.....	62	442	Included in miscell. freighting material 20 hrs.
Red River, The Forks	.....	.....	.....	.....	2	2	
Red River, Middle Ground	.....	25	.....	.....	23	122	
Selkirk Slough	.....	.....	.....	.....	11	11	Pumping out Barges.
Totals, hours	.....	32	10	.....	98	577	

General Remarks: Dredge put into commission at Selkirk, Manitoba on May 1, 1915; laid up for season at Selkirk, Manitoba on October 30, 1915. Dredge No. 201 is entitled to a credit amounting to $120 for driving piles for launching ways for C.G.S. *Bradbury*. This work was done for the Department of Naval Service Construction No. 54.

DREDGE, P.W.D. No. 202 ("CRANE"), PROVINCE OF MANITOBA.

Details of Material and Time by Months.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled						8,791	5,778	9,962	9,242	13,688			47,461
Class of material						Rock, clay,	Sand, gravel, hard clay and clay.	..Clay	...Clay	Clay			
Total possible dredging time hrs						220	270	260	260	260			1,270
Total time lost hrs						73	150	101	105	79			508
Hours actually dredging						147	120	159	155	181			762
C. yds. handled per hour						59·8	48·1	62·7	59·6	75·6			62·5

Details of Expenditures by Months

Items of Expense.	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts
Wages						591 65	595 00	594 16	595 00	595 00			2,970 81
Fuel (coal or oil)						854 83	491 09		425 42	320 91			2,092 25
Subsistence						279 30	287 60	286 52	259 80	293 50			1,406 72
Attendance Inspection												1,109 32	1,109 32
Stores (Machinery						30 26	58 68	53 55	103 70				246 19
Stores (General						71 85	1 25			5 50			78 10
Repairs (Material	2 93	3 45	190 91	37 63		182 67	667 37	27 12	55 67	23 21	94 41	27 12	297 50
Repairs (Wages	42 62		80 25	73 20		433 06	202 06	179 85	38 93	65 00	113 56	159 18	203 10
Total Expenses	45 55	3 45	271 16	110 83		717 84	2,655 14	1,634 21	1,078 98	1,368 43	1,422 08	186 30	1,609 92

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Lisgar	June 5	June 9	Lockport	140 91
Lisgar	June 10	June 26	Selkirk Slough	692 77
Lisgar	June 28	July 10	Hnause	322 90
Lisgar	July 12	Aug. 14	Icelandic River	751 46
Lisgar	Aug. 16	Aug. 31	Howardville	915 82
Lisgar	Sept. 8	Oct. 13	Red River, New Channel	956 93
Lisgar	Oct. 14	Oct. 26	Red River, Middle Ground	504 88
Lisgar	Oct. 26	Oct. 30	Red River, off Cresent Island	187 84
Lisgar			Employed in attendance and inspection laying out work and handling supplies pro rata for the season	
"Vaughan"				
J. H. Montgomery				
"Ruby"				
Gasoline Launch				
				4,473 51

Rented Tugs.

Name of Tug	Employed. From	Employed. To	Locality	Expenses. $ cts.

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Attendance Inspection	Stores.		Repairs.		Rental Tugs.	Contingencies	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts	$ cts.
Lockport	93 58	65 91		44 31		34 94	7 75	2 46	50 70	50 11			349 76
Selkirk Slough	460 06	324 01		217 85		171 79	38 12	12 09	249 28	246 35			1,719 55
Hnausa	214 43	151 02		101 54		80 07	17 77	5 64	116 19	114 83			801 49
Icelandic River	499 04	351 46		236 30		186 34	41 36	13 12	270 39	267 22			1,865 23
Howardville	608 18	428 33		287 98		227 10	50 40	16 00	329 54	325 67			2,273 19
Red River, New Channel	635 49	447 55		300 91		237 30	52 66	16 70	344 33	340 29			2,375 23
Red River, Middle Ground	335 29	236 13		158 76		125 20	27 79	8 81	181 67	179 54			1,253 19
Red River, off Crescent Island	124 74	87 85		59 07		46 58	10 34	3 28	67 59	66 80			466 25
Totals	2,970 81	2,092 25		1,406 72		1,109 32	246 19	78 10	1,609 69	1,590 81			11,103 89

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging	Cost per Cubic Yard.
	From	To						
Lockport	June 5	June 9	Rock	295	40	24	$14·57	$1·186
Selkirk Slough	June 10	June 26	Clay	8,201	150	118	14·57	0·210
Hnausa	June 28	July 10	Clay, sand, gravel, hard clay	2,179	120	55	14·57	0·368
Icelandic River	July 12	Aug. 14	Clay	6,962	300	128	14·57	0·268
Howardville	Aug. 16	Sept. 8	Clay	10,826	205	156	14·57	0·210
Red River, New Channel	Sept. 8	Oct. 13	Clay	8,673	305	163	14·57	0·274
Red River, Middle Ground	Oct. 14	Oct. 26	Clay	7,729	109	86	14·57	0·162
Red River, off Crescent Island	Oct. 26	Oct. 30	Clay	2,596	41	32	14·57	0·180
Totals				47,461	1,270	762	14·57	0·234

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Lockport		1							5	10	
Selkirk Slough	5								6	1	
Hnausa	5		28			10			15	7	
Icelandic River	20	9	20				53	5		25	
Howardville		15	10			10			5	4	
Red River, New Channel	1	6	56	6			8		31	5	
Red River, Middle Ground									10	3	
Red River, off Crescent Island	5								1		
Totals, hours	36	31	114	6		20	61	5	73	55	

DREDGE, P.W.D. No. 202 ("CRANE"), PROVINCE OF MANITOBA—*Concluded.*

EXPLANATION OF UNAVOIDABLE LOSS OF TIME—*Concluded.*

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks
	Plant.	Boilers.					
Lockport						16	
Selkirk Slough	1	19				32	
Hnausa						65	
Icelandic River		30			10	172	
Howardville		5				49	
Red River, New Channel		19			10	142	
Red River, Middle Ground		10				23	
Red River, off Crescent Island					3	9	
Totals, hours	1	83			23	508	

General Remarks: Dredge put into commission at Selkirk, Manitoba, on June 5, 1915; laid up for season at Selkirk, Manitoba, on October 30, 1915. Tug "*Lisgar*" was in attendance on dredge No. 204 from the 1st to 7th September at Icelandic River.

DREDGE, P.W.D. No. 204 (RED RIVER), PROVINCE OF MANITOBA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					7,920	14,997	13,155	8,494	9,204	9,230	360		63,360
Class of material					Hard clay, clay.	Clay, hard clay, sand and rock.	Hard clay, sand, rock and clay.	Clay and rock.	Hard clay	Hard clay and clay.	Clay		
Total possible dredging time hrs					180	260	270	260	260	260	10		1,500
Total time lost hrs					45	39	100	122	108	105	4		523
Hours actually dredging					135	221	170	138	152	155	6		977
C.yds. handled per hour					58·7	67·9	77·4	61·5	60·5	59·5	6·0		64·6

Details of Expenditures by Months.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages					457 25	675 00	675 00	665 95	670 83	675 00	24 96		3,843 99
Fuel (coal or oil)					487 03	964 85		445 96	712 31	406 72			3,016 87
Subsistence					202 81	292 30	304 80	310 32	310 00	306 40	7 20		1,733 83
Attendance and Inspection												1,109 32	1,109 32
Stores Machinery					30 20	116 37	54 48	11 24			3 00		215 29
Stores General					71 85	1 25		5 20					78 40
Repairs Material	2 93	3 45	190 91	156 31	292 32	370 49	27 13	126 49	23 21	03 71	21 54	26 85	1,335 34
Repairs Wages	42 63		80 25	311 13	437 94	202 06	179 85	38 94	65 00	113 56	129 77	25 00	1,626 13
Total Expenses	45 56	3 45	271 16	467 44	1,979 40	2,622 32	1,241 26	1,604 20	1,781 35	1,595 39	186 47	1,161 17	12,959 17

DREDGE, P.W.D. No. 204 (RED RIVER), PROVINCE OF MANITOBA—*Concluded.*

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.					RENTED TUGS.			
Name of Tug.	Employed.		Locality.	Expense.	Name of Tug.	Employed.	Locality.	Expenses.
	From	To		$ cts.		From To		$ cts.
Pegasis	May 31.	June 17.	So. approach Marine Railway.	735 75				
Pegasis	May 11.	May 29	Selkirk Slough	1,150 91				
Pegasis	June 18	June 26						
Pegasis	Oct. 29	Nov. 1.						
Pegasis	June 26	July 24	Winnipeg Beach	756 75				
Pegasis	July 26	Aug. 2	Big Island, Anderson's Hbr.	236 49				
Pegasis	Aug. 2	Aug. 26.	Gimli	667 41				
Pegasis	Aug. 27.	Aug. 31.	Icelandic River	84 08				
Pegasis	Oct. 1	Oct. 2						
	Oct. 4	Oct. 28.	Mouth of Red River	704 17				
Ruby	Sept. 1	Sept. 30.	Icelandic River	798 77				
Vaughn			Employed in attendance and inspection laying out work and handling supplies pro rata for the season.					
J. H. Montgomery								
Ruby								
Gasoline launch								
				5,134 33				

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Attendance and Inspection.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
So. approach Marine Railway	550 84	432 32	.....	248 46	.....	158 97	30 85	11 24	191 35	233 03	.....	.....	1,857 06
Selkirk Slough	861 67	676 26	.....	388 66	.....	248 66	48 26	17 57	299 33	364 51	.....	.....	2,904 92
Winnipeg Beach	566 57	444 66	.....	255 55	.....	163 50	31 73	11 56	196 82	239 68	.....	.....	1,910 07
Big Island, Anderson's Hbr.	177 06	138 06	.....	79 86	.....	51 10	9 92	3 61	61 51	74 90	.....	.....	596 92
Gimli	499 68	392 16	.....	225 38	.....	144 20	27 98	10 19	173 58	211 38	.....	.....	1,684 55
Icelandic River	660 97	518 75	.....	298 13	.....	190 75	37 02	13 48	229 61	279 61	.....	.....	2,228 32
Mouth of Red River	527 20	413 76	.....	237 79	.....	152 14	29 53	10 75	183 14	223 02	.....	.....	1,777 33
Totals	3,843 99	3,016 87	.....	1,733 83	.....	1,109 32	215 29	78 40	1,335 34	1,626 13	.....	.....	12,959 17

Expenses Working at	Time Working. From	To	Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
S. approach Marine Railway	May 31	June 17	Clay	8,640	160	140	13·26	0·215
Selkirk Slough	May 11	May 29	Hard clay and clay	14,520	275	219	13·26	0·200
	June 18	June 26						
	Oct. 29	Nov. 1						
Winnipeg Beach	June 26	July 24	Hard clay, sand and rock	9,297	245	144	13·26	0·206
Big Island, Anderson's Hbr	July 26	Aug. 2	Clay	5,257	65	45	13·26	0·113
Gimli	Aug. 2	Aug. 26	Clay and rock	7,500	215	127	13·26	0·225
Icelandic River	Aug. 27	Oct. 2	Hard Clay	10,148	320	168	13·26	0·220
Mouth of Red River	Oct. 4	Oct. 28	Clay	7,980	220	134	13·26	0·223
Totals				63,360	1,500	977	13·26	0·205

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on. Scows, tugs.	Waiting on. Orders.	Towing, etc.	Procuring Fuel.	Procuring Water.
So. approach Marine Railway	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....
Selkirk Slough	5	.....	.....	.....	.....	10	.....	.....	12	.....	.....
Winnipeg Beach	.....	.....	35	.....	.....	10	.....	.....	21	5	.....
Big Island, Anderson's Hbr	.....	.....	.....	.....	.....	.....	.....	.....	15	.....	.....
Gimli	.....	.....	45	.....	.....	.....	.....	.....	15	3	.....
Icelandic River	10	.....	28	.....	.....	10	72	.....	12	.....	.....
Mouth of Red River	5	.....	46	.....	.....	.....	.....	.....	15	.....	.....
Totals, hours	20	.....	154	.....	.....	30	72	.....	95	8	.....

Time Lost at	Cleaning. Plant.	Cleaning. Boilers.	Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.
So. approach Marine Railway	.....	15	.....	.....	.....	20
Selkirk Slough	4	15	.....	.....	10	56
Winnipeg Beach	.....	15	10	.....	5	101
Big Island, Anderson's Hbr	.....	5	.....	.....	.....	20
Gimli	.....	10	.....	.....	15	88
Icelandic River	.....	20	.....	.....	.....	152
Mouth of Red River	.....	20	.....	.....	.....	86
Totals, hours	4	100	10	.....	30	523

General Remarks: Dredge put into commission at Selkirk, Manitoba, on May 11, 1915; laid up for season at Selkirk, Manitoba, on Nov. 1st, 1915. Tug *Lisgar* attended Dredge No. 204 from 1st to 7th September, 1915. Tug *Peguis* is entitled to a credit of $80 for placing buoys in Red River. This work was done for the Department of Naval Service.

DREDGE, P.W.D. No. 205 (WINNIPEG), PROVINCE OF MANITOBA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled					8,644	25,850	16,821	8,292	7,469	17,068			84,144
Class of material					Clay piles, sand.	Clay, piles, mud.	Clay, mud, sand, rock, gravel	Rock, gravel, boulders.	Gravel, rock, boulders.	Gravel, rock, boulders.			
Total possible dredging time. hrs					240	260	270	260	260	250			1,540
Total time lost. hrs					76	31	92	72	118	57			446
Hours actually dredging					164	229	178	188	142	193			1,094
C.yds. handled per hour					52·7	112·9	94·5	44·1	52·6	88·4			76·9

Details of Expenditures by Months

Items of Expense.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages					643 74	720 00	720 00	717 08	710 96	668 71			4,180 49
Fuel (coal or oil)					795 98	432 47	266 04	442 58	455 15	333 16			2,725 38
Water													
Subsistence					283 74	309 00	316 80	328 48	307 40	302 80			1,848 22
Wharfage													
Attendance and Inspection											1,109 32		1,109 32
					79 10	71 94	62 90	11 24	1 15				226 33
Stores {Machinery													81 56
Stores {General					76 46	5 10							
Repairs {Material	3 48	12 65	190 91	172 54	212 92	189 10	42 97	101 17	25 07	309 12	87 70	26 85	1,374 48
Repairs {Wages	42 63		350 75	462 30	269 34	202 07	159 85	38 94	107 00	180 45	401 35	25 00	2,239 68
Rental of Tugs													
Contingencies													
Total Expenses	46 11	12 65	541 66	634 84	2,361 28	1,929 68	1,568 56	1,639 49	1,606 73	1,794 24	489 05	1,161 17	13,785 46

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs

Name of Tug.	Employed. From	Employed. To	Locality	Expenses.
				$ cts
Furby	May 4	May 7	Digging up S.S. *Alberta*	145 21
Furby	May 7	June 3	Winnipeg, N.T. Ry. Bridge	932 56
Furby	June 4	June 22	Winnipeg, C.P.R. Bridge	787 40
Furby	June 23	July 9	Winnipeg, Rover Ave. Wharf	608 65
Furby	July 9	July 24	Red River, off Crescent Isld.	1,334 59
Furby	Oct. 11	Oct. 29		
Furby	July 26	Aug. 31	Red River, Lockport	1,507 73
Furby	Oct. 1	Oct. 9		
Furby	Sept. 1	Sept. 30	Red River, Lockport	792 96
J. H. Montgomery			Employed in attendance and inspection laying out work and hauling supplies pro rata for the season	
Vaughn				
Ruby				
Gasoline launch				
				6,109 10

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts.

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Attendance and Inspection	Stores. Machinery	Stores. General.	Repairs. Material.	Repairs. Wages.	Rental Tugs.	Contingencies.	Total Expenses.
Digging up S.S. *Alberta* wreck	99 37	64 78		43 93		26 37	5 38	1 94	32 67	53 24			327 68
Winnipeg, N.T. Ry. Bridge	638 15	416 03		282 13		169 34	34 55	12 45	209 81	341 89			2,104 35
Winnipeg, C.P. Ry. Bridge	538 83	351 27		238 22		142 98	29 17	10 51	177 16	288 67			1,776 81
Winnipeg, Rover Ave. Wharf	416 50	271 53		184 14		110 52	22 55	8 13	136 94	223 14			1,373 45
Red River, off Crescent Island	913 27	595 39		403 76		242 34	49 44	17 82	300 27	489 28			3,011 57
Red River, Lockport	1,574 37	1,026 38		696 04		417 77	85 24	30 71	517 63	843 46			5,191 60
Totals	4,180 49	2,725 38		1,848 22		1,109 32	226 33	81 56	1,374 48	2,239 68			13,785 46

Expenses Working at	Time Working. From	Time Working. To	Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
Digging up S.S. *Alberta* wreck	May 4	May 7			37	26	$12·60	
Winnipeg, N. T. Ry. Bridge	May 7	June 3	Clay, sand and piles	10,923	233	167	12·60	0·193
Winnipeg, C.P. Ry. Bridge	June 4	June 23	Mud	17,363	160	141	12·60	0·102
Winnipeg, Rover Ave. Wharf	June 23	July 9	Clay	11,252	145	109	12·60	0·122
Red River, off Crescent Island	July 9	July 24	Mud and sand	24,832	305	239	12·60	0·121
	Oct. 11	Oct. 29						
Red River, Lockport	July 26	Oct. 9	Gravel, rock, boulders	19,774	660	412	12·60	0·263
Totals				84,144	1,540	1,094	12·60	0·164

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on Scows, tugs.	Waiting on Orders.	Towing, etc.	Procuring Fuel.	Procuring Water.
Digging up S.S. *Alberta*									6	5	
Winnipeg, N. T. Ry. Bridge		12				10			13	16	
Winnipeg, C.P. Ry. Bridge										5	
Winnipeg, Rover Ave. Wharf		1				10				5	
Red River, off Crescent Island		7							22	2	
Red River, Lockport	19				52		93		10	15	
Totals, hours	19	20			52	20	93		51	48	

Time Lost at	Cleaning. Plant.	Cleaning. Boilers.	Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
Digging up S.S. *Alberta*						11	
Winnipeg, N. T. Ry. Bridge		15				66	
Winnipeg, C.P. Ry. Bridge		14				19	
Winnipeg, Rover Ave. Wharf		15		5		36	
Red River, off Crescent Island		25	10			66	
Red River, Lockport		29			20	248	
Totals, hours		98	10	5	20	446	

General Remarks: Dredge put into commission at Selkirk, Manitoba, on May 4, 1915; laid up for season at Selkirk, Manitoba, on Oct. 29, 1915. There has been an attempt made to collect $399.34 for raising S.S. *Alberta* wreck, but owing to the firm going into liquidation it has been impossible to do so.

DREDGE, P.W.D. No. 206, PROVINCE OF ALBERTA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled						2,014	6,097	4,825					12,936
Class of material						Blue clay and boulders.	Blue clay and boulders.	Blue clay and boulders.					
Total possible dredging time, hrs						160	270	140					570
Total time lost, hrs						106	96	16					218
Hours actually dredging						54	174	124					352
C.yds. handled per hour						37·2	35·0	38·9					37·0

Details of Expenditures by Months.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
Wages						77 90	259 60	350 80					688 30
Fuel (coal or oil)		412 50					3 58						416 08
Water													
Subsistence	14 40	17 20	35 40	7 65	63 00	299 00	161 19	142 65	11 50				751 99
Wharfage													
Pilotage													
Stores {Machinery						27 90	16 50	4 50					48 90
Stores {General													
Repairs {Material			339 41	34 00	146 89	425 60	14 00	16 02	7 10				983 02
Repairs {Wages	45 00	45 00	45 00	95 00	331 94	297 10	115 40	14 04	63 70				1,052 18
Rental of tugs													
Contingencies				69 45		8 45	33 02	6 50	76 05				193 47
Total Expenses	59 40	474 70	419 81	206 10	541 83	1,135 95	603 29	534 51	158 35				4,133 94

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.			
Name of Tug.	Employed.		Locality.	Expense.	Name of Tug.	Employed.		Locality.	Expenses.
	From	To		$ cts.		From	To		$ cts.

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ ets.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Grouard, Alta.	688 30	416 08	.....	751 99	.....	.....	48 90	.....	983 02	1,052 18	.....	193 47	4,133 94
Totals	688 30	410 08	.....	751 99	.....	.....	48 90	.....	983 02	1,052 18	.....	193 47	4,133 94

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Grouard, Alta.	June 12.	Aug. 17.	Gumbo, rock and blue clay	12,936	570	352	$11·75	31·96
Totals	.....	.....	.....	12,936	570	352	11·75	31·96

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Grouard	172	6	.....	.....	.....	10	.....	.....	.....	.....	.....
Totals, hours	172	6	.....	.....	.....	10	.....	.....	.....	.....	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Grouard	.....	30	.....	.....	.....	218	
Totals, hours	.....	30	.....	.....	.....	218	

General Remarks: Dredge put into commission at Grouard, Alta., on June 12, 1915; laid up for season at Grouard, Alta., on Aug. 17, 1915. Relative high repairs cost due to short working season, as dredging was completed on August 17th, also to poor condition of plant, as was reported on previously.

DREDGE, P.W.D. No. 208, PROVINCE OF SACKATCHEWAN.

Details of Material and Time by Months

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled					690	160	660	6,780	7,320	180			20,790
Class of material					Boulders & hard pan.	Gumbo mud hard pan & boulders.	Stiff clay	Stiff clay	Stiff clay, gumbo.	Clay and loose rock.			
Total possible dredging time.....hrs					50	260	270	260	260	30			1,130
Total time lost.....hrs					15·0	105·5	556·0	128·0	130·5	25·0			660
Hours actually dredging					35·0	154·5	14·0	132·0	129·5	5·0			470
C.yds.handled per hour					19·714	33·398	47·142	51·363	56·525	36·000			

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.
Wages						750 00	750 00	750 00	840 00	507 36			3,597 36
Fuel (coal or oil)		800 00		400 00								66 00	1,266 00
Water													
Subsistence					256 55	146 10	262 00	211 28	112 98	275 53		8 95	1,273 39
Wharfage													
Pilotage													
Stores {Machinery					347 50	115 52							463 02
Stores {General						40 00		33 60					73 60
Repairs {Material					24 01		466 51	200 31	46 60	3 15		13 85	754 43
Repairs {Wages	50 00	50 00		263 98	594 65		78 25				122 58	184 50	1,343 96
Rental of Tugs													
Contingencies				123 95	149 33	94 66	195 23	13 80	109 33	263 05	202 63		1,151 88
Total Expenses	50 00	850 00		787 93	1,372 04	1,146 18	1,751 99	1,208 99	1,108 91	1,049 09	325 21	273 30	9,923 64

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tug					Rented Tugs				
Name of Tug.	Employed From	Employed To	Locality	Expenses.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
				$ cts					$ cts.
Le Pas	May 26.	Oct. 4	Cumberland Lake, Sask	2,149 48					

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
Cumberland Lake, Sask.	3,597 36	1,266 00		1,273 39			463 02	73 60	754 43	1,343 96		1,151 88	9,923 64
Totals	3,597 36	1,266 00		1,273 39			463 02	73 60	754 43	1,343 96		1,151 88	9,923 64

Expenses Working at	Time Working.		Kiad of material	No. C. Yds. Moved.	Possible Work Hours.	Aetual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Cumberland Lake, Sask.	May 26	Oct. 4	Clay and boulders	20,790	1,130	470	$21·11	$0·471
Totals				20,790	1,130	470	21·11	0·471

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Cumberland Lake, Sask	106	15	118			10	57		5		
Totals, hours	106	15	118			10	57		5		

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers					
Cumberland Lake, Sask	2·5	30			316·5	660	Principal loss of time was caused by extreme high water in Cumberland Lake. Spuds were too short to hold dredge.
Totals, hours	2·5	30			316·5	660	

General Remarks: Dredge put into Commission at Cumberland Lake, Sask., on May 26, 1915. Laid up for season at Cumberland Lake, Sask., on Oct. 10, 1915. From July 12th until August 9th dredging operations were suspended owing to extreme high water in the lake, due to unusually high floods of both branches of the Saskatchewan River.

DREDGE, P.W.D. No. 203 & 210 ("WINNIPEGOSIS"), PROVINCE OF MANITOBA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled.					4,253	6,075	7,207	7,467	7,913	4,456			37,371
Class of material					Clay, stones hard pan, mud and sand.	Clay, sand, and hard pan.	Sand, clay, hard pan and stones.	Clay, hard pan and sand	Clay, hard pan, stones and gravel.	Clay, sand and hard pan.			
Total possible dredging time					170	260	270	260	260	210			1,430
Total time lost					70½	148	149½	144	117	135¼			764¼
Hours actually dredging					99½	112	120½	116	143	74¾			665¼
C.yds. handled per hour					42·7	54·2	59·8	64·4	55·3	59·8			56·2

Details of Expenditures by Months.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages					370 80	650 00	650 00	654 97	645 66	516 61			3,488 04
Fuel (coal or oil)					203 18	409 08		539 21	750 28	231 81	77 84		2,211 40
Water													
Subsistence	128 10				211 44	279 15	283 20	283 90	271 80	254 90			1,712 49
Wharfage													
Completion of transfer				460 43									460 43
Stores (Machinery	24 15	0 85			114 45	158 25	88 16	12 72	14 47	8 54			421 59
Stores (General	3 40				6 35	33 25		28 95		8 15			80 10
Repairs (Material					46 32	147 16	18 20	122 17	12 69	45 32	64 73	302 24	758 83
Repairs (Wages	50 00			104 00	158 80					155 82	225 01	50 00	743 63
Rental of tugs								104 80					104 80
Contingencies				4 50	8 37	6 90		1 50	7 30	1 50		4 50	34 57
Total Expenses	205 65	0 85		568 93	1,119 71	1,638 79	1,039 56	1,748 22	1,702 20	1,222 65	367 58	356 74	10,015 88

Details of Tug Service.—Tugs in attendance and included in these operations.

Department Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts
Mossy River	May 12	Aug. 7	Winnipegosis, Mossy River	2,144 53
Mossy River	Aug. 21	Aug. 24	Winnipegosis, Mossy River	
Mossy River	Sept. 17	Oct. 25	Winnipegosis, Mossy River	
Mossy River	Aug. 9	Aug. 16	Pine Creek	160 79
Mossy River	Aug. 17	Aug. 20	Spruce Island	71 69
Mossy River	Aug. 25	Sept. 17	Snake Island	514 94
				2,891 95

Rented Tugs.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Adonack	Aug. 9	Aug. 16	Pine Creek	72 48
Adonack	Aug. 7	Aug. 20	Spruce Island	32 32
				104 80

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Completion of transfer.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.
Winnipegosis, Mossy River	2,586 56	1,639 96	.....	1,269 90	.....	341 43	312 63	59 49	562 71	551 44	.....	25 63	7,349 56
Winnipegosis, Mossy River	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pine Creek	193 93	122 96	.....	95 21	.....	25 60	23 44	4 45	42 19	41 35	72 48	1 92	623 53
Spruce Island	86 47	54 82	.....	42 45	.....	11 41	10 45	1 99	18 81	18 43	32 32	0 86	278 01
Snake Island	621 08	393 76	.....	304 93	.....	81 99	75 07	14 26	135 12	132 41	.....	6 16	1,764 78
Totals	3,488 04	2,211 40	.....	1,712 49	.....	460 43	421 59	80 10	758 83	743 63	104 80	34 57	10,015 88

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Winnipegosis, Mossy River	May 12	Aug. 7	Clay, stones, hard pan.	27,193	1,114	493½	$14·88	0·270
Winnipegosis, Mossy River	Aug. 21	Aug. 24						
Winnipegosis, Mossy River	Sept. 17	Oct. 25	Mud and sand					
Pine Creek	Aug. 9	Aug. 16	Mud, clay, sand and stone	3,254	70	37	16·85	0·192
Spruce Island	Aug. 17	Aug. 20	Soft clay	1,019	40	16½	16 ·85	0·275
Snake Island	Aug. 25	Sept. 17	Clay, sand, hard pan, stone, gravel and boulders	5,914	206	118½	14·89	0·298
Totals				37,371	1,430	665½	15·05	0·268

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Winnipegosis, Mossy River	99½	15½	343½	.....	.....	30	3½	.....	43½	17½	.....
Pine Creek	.....	.....	4½	.....	.....	.....	.....	4	11	.....	.....
Spruce Island	.....	1	.....	.....	.....	.....	10	.....	3½	1	.....
Snake Island	18½	8½	27½	.....	.....	10	.....	.....	2	4	....
Totals, hours	118	25	375½	.....	.....	40	13½	4	60	22½	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Winnipegosis, Mossy River	.....	22	7	.....	38½	620½	
Pine Creek	.....	.....	.....	.....	13½	33	
Spruce Islnnd	.....	.....	.....	.....	8	23½	
Snake Island	.....	7	.....	.....	10	87½	
Totals, hours	.....	29	7	.....	70	764½	

General Remarks: Dredge put into commission at Winnipegosis, Man., on May 12, 1915; laid up for season at Winnipegosis, Man., on October 25, 1915. Dredge. No. 203 was dismantled and the machinery, etc., transferred to Dredge No. 210.

DGE, P.W.D. No. 301 ("AJAX"), PROVINCE OF BRITISH COLUMBIA.

(3 and 5 Cubic yard Dipper Type).

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December	Total.
Cubic yards handled	13,810	34,480	11,310	28,300	31,145	16,855	33,420	9,730	16,850	180	5,630	25,560	227,270
Class of material	Rock and clay	Rock and clay.	Rock and hardpan.	Clay and broken rock	Broken rock and rock.	Hardpan and rock.	Hardpan and rock.	Broken sand stone	Sand and rock.	Rock.	Broken rock	Mud and broken rock	
Total possible dredging time	450·00	413·50	374·00	460·00	439·50	456·00	465·00	460·00	455·50	229·50	355·00	48·00	5,038·00
Total time lost	217·25	134·75	213·25	228·50	195·50	197·50	149·25	247·00	315·00	224·75	189·75	188·00	2,500·50
Hours actually dredging	232·75	278·75	160·75	231·50	244·00	258·50	315·75	213·00	140·50	4·75	165·25	292·00	2,537·75
C.yds.handled per hour	55·00	123·70	70·30	122·00	128·00	66·00	106·00	46·00	120·00	38·00	34·00	87·00	89·00

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts
Wages	2,889 88	2,872 52	3,055 69	2,926 11	3,056 79	2,831 39	2,869 40	2,930 13	2,830 15	2,812 69	2,962 42	2,873 07	34,910 54
Fuel, coal and oil	960 27	1,027 60	242 20	954 20	936 50	799 32	954 75	860 12	897 39	171 62	627 85	1,179 50	9,602 32
Water		18 10	17 40	19 00	6 60			30 40	6 50	9 96	9 50		117 46
Subsistence	695 25	717 98	875 20	419 39	1,143 08	761 55	751 49	906 38	800 78	854 62	853 22	851 48	9,630 42
Wharfage													
Pilotage													
Stores (Machinery	3,214 83	227 42	1,399 52	27 91	1,337 27	391 03	550 44	147 41	309 79	143 09	519 80	4,320 49	11,589 00
Stores (General	53 18	144 93	72 21	38 50	76 03	32 50	17 20	80 30	12 00	309 45	26 13	9 05	871 48
Repairs (Material	657 33	2,951 34	3,739 43	2,167 73	2,982 14	647 03	1,601 91	171 32	2,382 84	1,107 51	777 57	4,725 52	23,911 67
Repairs (Wages													
Rental of tugs													
Contingencies	7 60	1 00	20 25	72 30	6 75	4 20	49 50	2 00	40 10	21 60	1 75	2 50	229 55
Total Expenses	7,478 34	7,960 89	9,421 90	6,625 14	9,545 16	5,458 02	6,794 69	5,128 06	7,279 85	5,430 54	5,778 24	13,961 61	90,862 44

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS

Name of Tug.	Employed From	Employed To	Locality.	Expenses.
				$ cts
Point Ellice	Jan. 1	Aug. 7	Victoria	18,582 58
	Sept. 27	Dec. 31		
Point Ellice	Aug. 8	Sept. 7	Nanaimo	2,295 25
	Sept. 16	Sept. 25		
Point Ellice	Sept. 8	Sept. 15	Blubber Bay	335 16
				21,212 99

RENTED TUGS.

Name of Tug.	Employed From	Employed To	Locality.	Expenses.
				$ cts.

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies	Total Expenses.
							Machinery.	General.	Material	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Victoria Harbour	30,581 63	8,411 63	102 90	8,436 25			10,151 96	763 42	20,946 62			201 09	79,595 50
Nanaimo Harbour	3,777 32	1,038 97	12 71	1,042 01			1,253 93	94 29	2,587 24			24 84	9,831 31
Blubber Bay	551 59	151 72	1 85	152 16			183 11	13 77	377 81			3 62	1,435 63
Totals	34,910 54	9,602 32	117 46	9,630 42			11,589 00	871 18	23,911 67			229 55	90,862 44

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging	Cost per Cubic Yard.
	From	To						
Victoria Harbour	Jan. 1	Aug. 7	Hardpan and rock	204,480	4,307·5	2,222·75	$35·80	$0·389
Nanaimo Harbour	Sept. 27	Dec. 31						
	Aug. 8	Sept. 7	Broken sand stone	16,250	607·5	274·75	35·78	0·604
Blubber Bay	Sept. 16	Sept. 25						
	Sept. 8	Sept. 15	Sand and gravel	6,540	123·0	40·0	35·89	0·218
Totals				227,270	5,038·0	2,537·50	35·80	0·39

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Victoria Harbour	765·50	24·50	154·75	3·00	11·50	119·00	64·25		51·75	20·50	1·50
Nanaimo Harbour	19·75	8·25	19·00		51·00	20·00	25·00	67·75	17·25		
Blubber Bay	2·50	1·25			7·25		26·50		33·00	3·00	
Nanaimo Harbour	20·25	1·50		6·00	8·25		8·75		25·00		
Victoria Harbour	406·75	10·00	63·75			35·50	11·00		4·00	11·75	0·75
Totals, hours	1,214·75	45·50	237·50	9·00	78·00	174·50	135·50	67·75	131·00	35·25	2·25

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Victoria Harbour	5·50	31·50	5·00		165·00	1,423·25	Jan. 1st to Aug. 7th, 1915.
Nanaimo Harbour	0·25				24·75	253·00	Aug. 8th to Sept. 7th, 1915.
Blubber Bay	0·25				9·25	83·00	Sept. 8th to Sept. 15th, 1915.
Nanaimo Harbour	0·25				9·75	79·75	Sept. 16th to Sept. 25th, 1915.
Victoria Harbour	0·25				117·75	661·50	Sept. 27th to Dec. 31st, 1915.
Totals, hours	6·50	31·50	5·00		326·50	2,500·50	

General Remarks: Dredge at Victoria Machinery Depot for cleaning, painting and repairs to back brace on dipper, March 1st to 16th, 1915. Dredge at Victoria Machinery Depot for repairs yard dipper, and reinforcing starboard spud box, October 5th to November 11th, 1915. Assisting to raise Dredge *Mudlark*, November 11th to 14th, 1915.

DREDGE, P.W.D. No. 303 ("FRUHLING"), PROVINCE OF BRITISH COLUMBIA.

(Scraper Suction Type.)

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled	88,480				39,880	26,400	72,800	52,000	77,600	125,600	45,600	105,600	633,960
Class of material	Sand and clay.				Mud and sand.	Mud and sand.	Mud and sand.	Mud and sand.	Mud and sand.	Clay and sand.	Clay and sand.	Clay and sand.	
Total possible dredging time, hrs	445·0	210·0	238·5	229·0	440·0	376·0	362·0	460·0	407·5	445·0	334·0	417·0	4,361·0
Total time lost, hrs	307·75	210·0	238·5	229·0	278·25	293·0	198·0	301·0	219·25	158·25	175·0	208·75	2,816·75
Hours actually dredging	137·25				161·75	83·0	164·0	159·0	188·25	286·75	159·0	208·25	1,547·25
C.yds handled per hour	644·7				597·0	660·0	904·0	658·0	553·0	438·0	287·0	507·0	

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.
Wages	2,119 93	2,122 21	2,0.4 55	2,108 55	2,2.5 03	2,120 63	2,167 37	2,188 16	2,123 77	2,161 38	2,056 82	2,120 00	25,618 40
Fuel, coal and oil	1,855 59	202 51	203 06	615 04	1,074 18	743 48	928 49	1,646 51	581 50	1,200 78	961 00	1,071 27	11,083 41
Water	5 40	17 10	5 60	11 17	5 00		15 84		9 63		29 09		98 83
Subsistence	574 54	460 87	505 74	422 19	709 75	624 25	473 55	621 33	602 31	616 85	583 74	571 45	6,766 57
Wharfage					5 00			10 00					15 00
Pilotage													
Stores (Machinery	204 98	447 05	360 88	190 95	228 80	2,253 25	521 59	1,010 27	307 90	257 08	465 66	222 42	6,470 83
Stores (General	156 74	75 78	19 25	211 10	18 75	52 98		27 08	37 55	9 00	11 31	5 40	624 94
Repairs (Material	3,446 75	1,087 77	7,375 74	3,589 69	515 77	1,974 17	4,150 21	8,408 44	367 80	519 40	332 68		31,768 42
Repairs (Wages													
Rental of tugs													
Contingencies	5 00	15 19	7 50	11 61	129 32	68 65	61 78	102 53	8 06	276 65	13 39		699 68
Total Expenses	8,368 93	4,428 48	10,542 32	7,160 30	4,951 60	7,837 41	8,318 83	14,014 32	4,038 52	5,041 14	4,453 69	3,990 54	83,146 08

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts	$ cts.
Sand Heads	10,132 08	4,383 49	39 00	2,676 18	5 93		2,559 21	247 16	12,564 41			276 72	32,884 27
Dominion Government Dock, Vancouver, B.C.	5,963 96	2,580 22	23 01	1,575 26	3 49		1,506 41	145 49	7,395 69			162 88	
													19,356 41
New Westminster, City Wharf	9,522 36	4,119 70	36 73	2,515 13	5 58		2,405 21	232 29	11,808 32			260 08	30,905 40
Totals	25,618 40	11,083 41	98 83	6,766 57	15 00		6,470 83	624 94	31,768 42			699 68	83,146 08

Expenses Working at	Time Working. From	To	Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
Sand Heads	Jan. 1	April 30	Sand and clay.	309,280	1,973	612·00	$53·73	$0·106
	Sept. 1	Sept. 13						
	Sept. 20	Oct. 9						
	Dec. 2	Dec. 31						
Dominion Govt. Dock, Vancouver, B.C.	May 1	July 14	Mud and sand	96,680	1,321	360·25	53·73	0·202
	Aug. 2	Aug. 21						
	Sept. 14	Sept. 18						
New Westminster, City Wharf	July 15	July 31	Mud and sand	228,000	1,070	575·00	53·74	0·135
	Aug. 23	Aug. 31						
	Oct. 11	Dec. 1						
Totals				633,960	4,364	1,547·25	53·73	0·13

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on Scows, tugs.	Waiting on Orders.	Obstructions in pipe.	Procuring Fuel.	Procuring Water.
Sand Heads	723·75	17·0	64·75	18·25		39·0				6·5	
Dominion Government Dock, Vancouver	285·25	272·0	16·25		12·75	49·5			20·5	12·5	
City Wharf, New Westminster	7·5	76·25							5·0	2·0	
Dominion Government Dock, Vancouver	156·5			38·5	1·75				1·5	6·0	
City Wharf, New Westminster		31·5		40·25					8·25	2·0	
Sand Heads		14·5	10·5	7·75		20·0					
Dominion Government Dock, Vancouver		45·75		14·5						2·5	
Sand Heads	92·5	8·5	10·25	4·0	2·0				3·0	3·5	
City Wharf, New Westminster	145·25	71·5		27·5	13·0	20·0			19·25	1·0	
Sand Heads	16·5	22·75	73·0	3·75	14·0	15·5				6·25	
Totals, hours	1,427·25	559·75	174·75	154·50	43·5	144·0			57·5	42·25	

Time Lost at	Cleaning. Plant.	Cleaning. Boilers.	Inspecting Boilers.	Discharging	Miscellaneous.	Total.	Remarks.
Sand Heads		5·0		55·25	55·75	985·25	Jan. 1 to April 30th, 1915.
Dominion Government Dock, Vancouver					7·5	676·25	May 1 to July 14th, 1915.
City Wharf, New Westminster					2·25	93·0	July 15 to July 31st, 1915.
Dominion Government Dock, Vancouver		15·5			2·0	221·75	Aug. 2 to Aug. 21st, 1915.
City Wharf, New Westminster						82·0	Aug. 23 to Aug. 31st, 1915.
Sand Heads						52·75	Sept. 1 to Sept. 13th, 1915.
Dominion Government Dock, Vancouver						62·75	Sept. 14 to Sept. 18th, 1915.
Sand Heads						123·75	Sept. 20 to Oct. 9th, 1915.
City Wharf, New Westminster		20·0			2·5	320·0	Oct. 11 to Dec. 1st, 1915.
Sand Heads			47·5			199·25	Dec. 2 to Dec. 31st, 1915.
Totals, hours		40·5	47·5	55·25	70·0	2,816·75	

General Remarks: Dredge under repairs at Vulcan Iron Works installing new pumps, extra oil tanks, and new mess and galley, from Jan 26 to April 30, 1915.
At Wallace Shipyards to straighten suction arm header, cutting out old furnace and putting new furnace in, from June 19 to July 5, 1915.
Relining pumps and installing pump shaft at Government Wharf, Sept. 14 to Sept. 29, 1915.

DREDGE, P.W.D. No. 305 ("KING EDWARD"), PROVINCE OF BRITISH COLUMBIA.
(Agitator Suction Type.)

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled	38,945	28,205	28,725	31,210	96,175	68,625	62,520	28,465	27,445	15,215	5,700		430,780
Class of material	Gravel.	Coarse gravel.	Sand and silt	Sand and silt	Sand and silt	Sand and silt	Sand and debris.	Sand and gravel.	Gravel.	Sand and silt.	Sand and silt.		
Total possible dredging time. hrs	388 00	420 00	488 00	459 00	445 00	456 00	410 75	231·50	232·00	226·50	214·00	240·00	4,210·75
Total time lost. hrs	194 25	192 75	259 25	393 50	282 75	314 25	271 25	47 00	129 00	198 00	198 25	240 00	2,720 25
Hours actually dredging	193·75	227·25	228 75	65·50	162·25	141·75	139·50	184·50	103·00	28·50	15·75		1,490·50
C.yds. handled per hour	198·00	124·00	125·00	476·00	592·00	484·00	448·00	184·00	266·00	534·00	362·00		

DETAILS OF EXPENDITURES BY MONTHS

Items of Expense	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts
Wages	2,315 31	2,292 50	2,320 64	2,304 45	2,315 00	2,759 50	1,711 91	1,958 01	1,815 53	1,780 00	3,316 36	31 93	24,921 14
Fuel, coal and oil	2,180 36	805 45	770 22	64 25	957 35	749 65	230 79	785 08	604 08	118 96	690 72	582 76	8,539 67
Water					9 00	7 20			36 00				52 20
Subsistence	583 41	460 59	612 24	487 60	583 97	569 01	658 78	365 80	502 82	479 75	460 20	497 28	6,261 45
Wharfage													
Pilotage													
Stores {Machinery	423 06	883 12	1,011 08	137 20	152 13	45 93	1,175 16	680 87	220 66	1,023 12	101 34	522 27	6,375 94
Stores {General	27 94	198 05	11 35	82 34	19 41	25 36			21 80		57 92	52 94	497 11
Repairs {Material	202 67	407 63	933 96	1,726 43	1,057 17	1,284 06	453 34	1,814 64	1,222 89	829 29	617 17	9,909 34	20,458 59
Repairs {Wages													
Rental of tugs	55 00			40 00	50 00								145 00
Contingencies	23 09	160 90	86 60	76 80	375 20	7 80	85 80	278 60	148 95	15 30	257 10	8 85	1,524 99
Total Expenses	5,810 84	5,208 24	5,746 09	4,919 07	5,519 23	5,448 51	4,315 78	5,883 00	4,572 73	4,246 42	5,500 81	11,605 37	68,776 09

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Point Garry	Jan 1	Jan 16	Heaps Eng. Works	128 42
Point Garry	Jan 18	Mar. 26	McDonald Bar	1,749 12
Point Garry	Mar. 29	Mar. 31	River Side Wharf	52 70
Point Garry	April 1	April 24	Glen Valley Wharf	163 84
Point Garry	April 26	June 12	Tamboline Slough	646 07
Point Garry	June 14	July 24	Steveston, etc	794 41
Point Garry	Oct. 1	Dec. 31	Steveston, etc	
Point Garry	July 26	Sept. 30	Courtenay River	893 61
				4,428 17

RENTED TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts
Heaps Eng. Works	722 71	247 65	1 51	181 58	.....	.....	184 90	14 42	593 30	.....	4 21	44 23	1,994 51
McDonald Bar	9,843 85	3,373 17	20 62	2,473 27	.....	.....	2,518 50	196 36	8,081 14	.....	57 28	602 37	27,166 56
River Side Wharf	296 56	101 62	0 62	74 51	.....	.....	75 87	5 92	243 46	.....	1 72	18 15	818 43
Glen Valley Wharf	922 08	315 97	1 93	231 67	.....	.....	235 91	18 39	756 97	.....	5 36	56 43	2,544 71
Tamboline Slough	3,635 99	1,245 94	7 61	913 55	.....	.....	930 25	72 53	2,984 91	.....	21 15	222 50	10,034 43
Steveston, Sand Heads	4,470 85	1,532 02	9 37	1,123 30	.....	.....	1,143 85	89 18	3,670 27	.....	26 01	273 58	12,338 43
Courtenay River	5,029 10	1,723 39	10 54	1,263 57	.....	.....	1,286 66	100 31	4,128 54	.....	29 27	307 73	13,879 02
Totals	24,921 14	8,539 67	52 20	6,261 45	.....	.....	6,375 94	497 11	20,458 59	.....	145 00	1,524 99	68,776 09

Expenses Working at	Time Working.		Kind of material	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging	Cost per Cubic Yard.
	From	To						
Heaps Eng. Works	Jan. 1	Jan. 16	Gravel and silt	17,535	178·00	43·25	$46·11	$0·113
McDonald Bar	Jan. 18	Mar. 26	Gravel	68,710	1,060·00	588·75	46·14	0·395
River Side Wharf	Mar. 29	Mar. 31	Sand and silt	9,180	58·00	17·75	46·10	0·089
Glen Valley Wharf	April 1	April 24	Sand and silt	25,615	363·00	55·25	46·05	0·099
Tamboline Slough	April 26	June 12	Sand and silt	128,510	731·00	217·50	46·13	0·078
Steveston, Sand Heads	June 14	July 24	Sand and silt	121,230	1,301·50	267·25	46·16	0·101
	Oct. 1	Dec. 31						
Courtenay River	July 26	Sept. 30	Sand and gravel	60,000	519·25	300·75	46·14	0·23
Totals				430,780	4,210·75	1,490·50	46·14	0·159

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Heaps Eng. Works	.....	1·75	.....	.....	39·25	9·50	.....	.....	80·75	1·50	.....
McDonald Bar	315·00	24·75	.....	.....	4·50	.....	.....	.....	92·50	13·75	.....
River Side Wharf	11·75	4·00	.....	.....	.....	.....	.....	.....	23·50	.....	.....
Glen Valley Wharf	86·00	17·75	.....	.....	2·25	45·00	.....	.....	60·25	.....	.....
Tamboline Slough	17·00	10·00	24·75	.....	23·25	20·00	5·00	2·50	295·00	17·75	2·75
Steveston	152·50	236·75	241·00	.....	12·75	53·50	1·25	.....	203·25	9·25	0·50
Courtenay River, Comox	50·75	28·50	.....	.....	2·00	9·50	16·75	.....	79·50	7·00	.....
Totals, hours	633·00	323·50	265·75	.....	84·00	137·50	23·00	2·50	834·75	49·25	3·25

DREDGE P.W.D. No. 305 ("KING EDWARD"), PROVINCE OF BRITISH COLUMBIA—*Concluded.*

EXPLANATION OF UNAVOIDABLE LOSS OF TIME—*Concluded.*

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Heaps Eng. Works	1·00				1·00	134·75	Jan. 1st to 16th, 1915.
McDonald Bar	1·50			2·00	17·25	471·25	Jan. 18th to Mar. 26th, 1915.
River Side Wharf					1·00	40·25	Mar. 29th to 31st, 1915.
Glen Valley Wharf	10·00	38·00			48·50	307·75	April 1st to 24th, 1915.
Tamboline Slough	13·00	1·00		4·00	77·50	513·50	April 26th to June 12th, 1915.
Steveston	10·00	79·00	19·00		15·50	1·034·25	June 14th to July 24th, 1915, and Oct. 1st to Dec. 31st.
Courtenay River, Comox		14·50			10·00	218·50	July 26th to Sept. 30th, 1915.
Totals, hours	35·50	132·50	19·00	6·00	170·75	2·720·25	

General Remarks: General overhaul of Dredge, February 22nd to March 10th, 1915, at New Westminster. Night shift abandoned, July 23rd, 1915. General overhaul at Wallace Shipyard, and building of new water tanks, November 23rd to December 23rd, 1915. The high cost of yardage is due to the large amount of time lost moving dredge to various locations, and also to the fact that in December dredge was tied up on account of severe weather prevailing and Fraser River being frozen.

DREDGE, P.W.D. No. 304 ("HERON"), PROVINCE OF BRITISH COLUMBIA.

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled		3,279	4,169	2,336	3,557	4,395	4,027	4,398	4,400	4,314	3,176	2,578	49,629
Class of material		Mud and cemented gravel, sand and clay.	Mud, sand and cemented gravel.	Mud, sand and cemented gravel.	Clay and fine gravel.	Sand, fine and coarse gravel, boulders.	Gravel.....	Coarse and medium	Gravel of all kinds.	Gravel.....	Various gravel.	Gravel, mud and clay.	
Total possible dredging time.....hrs		216	243	234	234	234	243	234	234	234	234	243	2,583
Total time lost.... hrs		42½	29	117½	62	30½	51½	23½	25	16	73	119	589
Hours actually dredging		173½	214	117	172	203½	191½	210½	209	218	161	124	1,994
C.yds.handled per hour		18·9	19·4	19·96	20·78	21·59	21·03	20·89	21·05	19·78	19·72	20·79	20·37

*Includes 55 hours dragline scraping of dumps.

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.
Wages	192 00	455 00	464 00	480 00	530 00	530 00	530 00	530 00	530 00	530 00	530 00	560 90	5,861 90
Fuel, coal and oil		110 00	66 00			3 00					49 25		228 25
Water													
Subsistence		164 17	323 37		92 74	114 69	303 93	142 53	133 19	136 92	126 93		1,538 47
Wharfage													
Pilotage													
Stores. {Machinery													
Stores. {General	6 27	14 45	186 75		152 70		15 91			20 38	5 25	16 75	418 46
Repairs {Material	10 60	19 00			6 40				6 79	4 15			37 94
Repairs {Wages					150 80		287 41	0 88			12 63	49 68	501 40
Rental of tugs													
Contingencies	13 00	1 50	4 00		12 31	9 50	10 30	8 40	4 50	9 25	16 00	2 25	91 01
Total Expenses	221 87	755 12	1,044 12	480 00	944 95	657 19	1,147 55	681 81	674 48	700 70	740 06	629 58	8,677 43

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.
Cut for Penticton Lumber Co	161 69	6 29	.....	42 44	.....	.....	11 54	1 05	13 83	.....	.....	2 51	239 35
Berth for Control Dam	407 16	15 85	.....	106 86	.....	.....	29 07	2 63	34 83	.....	.....	6 32	602 72
Okanagan River, dredging	570 31	22 22	.....	149 68	.....	.....	40 71	3 69	48 73	.....	.....	8 85	844 24
Okanagan River, dredging	4,584 57	178 51	.....	1,203 23	.....	.....	327 28	29 68	392 14	.....	.....	71 18	6,786 59
Re-dredging pond for Penticton Lumber Co	138 17	5 38	.....	36 26	.....	.....	9 86	0 89	11 82	.....	.....	2 15	204 53
Totals	5,861 90	228 25	.....	1,538 47	.....	.....	418 46	37 94	501 40	.....	.....	91 01	8,677 43

Expenses Working at	Time working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Cut for Penticton Lumber Co	Feb. 1	Feb. 9	Clay and sand	1,180	72	55	$4·35	20·19
Berth for Control Dam	Feb. 10	Mar. 4	Cemented gravel, clay and sand	2,515	180	138½	4·35	23·96
Okanagan River, dredging	Mar. 4	Mar. 31	Sand and cemented gravel	3,747	207	194	4·35	22·53
Okanagan River, dredging	April 1	Dec. 31	Sand, clay, gravel, cemented gravel & mud	32,174	2,070	1,559½	4·35	21·00
Re-dredging pond for Penticton Lumber Co	Dec. 18	Dec. 24	Mud	1,013	54	47	4·35	20·19
Totals	.....	.....	.....	40,629	2,583	1,994	.....	21·35

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Cut for Penticton Lumber Co	3	9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Berth for Control Dam	7	8	.....	.....	.....	.....	.....	.....	.....	4	.....
Okanagan River, dredging	88½	65	20	.....	.....	72	.....	.....	.....	42	1
Re-dredging pond for Penticton Lumber Co	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, hours	99½	84	20	.....	.....	72	.....	.....	.....	46	1

Time Lost at	Cleaning.		Inspecting Boilers.	Preparing for work.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Cut for Penticton Lumber Co	.....	.....	.....	5	.....	17	February 1st to February 9th.
Berth for Control Dam	.....	.....	.....	.....	22½	41½	February 10th to March 4th
Okanagan River, dredging	18	2	.....	.....	215	523½	March 5th to December 31st.
Re-dredging pond for Penticton Lumber Co	.....	.....	.....	.....	4	7	December 18th to 24th.
Totals, hours	18	2	.....	5	241½	589	

General Remarks: Dredge put into commission at Penticton on February 1, 1915; laid up for season at ..... Between April 17th and 20th, and April 27th and May 1st, 945 cubic yards of old clay dumps were removed by dragline scraper, operated by pile driver engine, and charged to Okanagan River Improvements.

DREDGE, P.W.D. No. 306 ("MASTODON"), PROVINCE OF BRITISH COLUMBIA.

(Bucket Ladder Type.)

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled	70,200	61,100	85,540	45,240	69,940	120,380	91,520	99,840	13,780	.....	61,880	137,800	857,220
Class of material	Gravel.....	Gravel	Gravel.....	Gravel.....	Gravel.....	Gravel.....	Gravel.....	Gravel	Gravel.	Gravel.....	Gravel.	Gravel.	
Total possible dredging time. . . hrs	440·00	346·50	396·00	334·00	445·00	460·00	423·00	460·00	260·50	224·50	355·00	480·00	4,624·50
Total time lost. ... hrs	215·50	164·25	143·75	182·50	197·25	128·50	172·25	150·50	197·50	224·50	187·25	143·25	2,107·00
Hours actually dredging	224·50	182·25	252·25	151·50	247·75	331·50	250·75	309·50	63·00	.....	167·75	336·75	2·517·50
C.yds.handled per hour	312·70	334·60	339·10	232·00	282·00	363·00	364·00	322·00	215·00	.....	368·00	409·00	340·00

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts	$ cts.
Wages	4,222 74	4,204 64	4,662 20	4,351 68	4,017 17	4,227 57	4,214 01	4,091 55	4,169 65	4,024 69	8,229 58	29 03	50,444 51
Fuel, coal and oil	2,578 92	704 71	1,381 25	775 19	772 76	1,226 20	85 00	2,119 91	192 95	884 18	1,175 57	1,363 17	13,259 81
Water	.....	.....	33 60	2 40	7 20	7 80	6 60	.....	20 20	.....	3 00	9 60	90 40
Subsistence	1,073 75	1,135 51	1,205 13	1,065 67	1,043 82	1,035 84	1,134 27	1,163 80	1,177 01	1,167 64	1,189 98	1,261 29	13,653 71
Wharfage	75 00	110 00	75 00	75 00	75 00	75 00	.....	75 00	100 00	75 00	75 00	75 00	960 00
Pilotage	.....	.....	.....	.....	.....	.....	75 00	.....	.....	.....	.....	.....	.....
Stores (Machinery	365 24	656 34	702 89	390 70	542 15	266 80	504 34	443 12	261 95	291 01	704 37	703 44	5,832 35
Stores (General	77 60	296 84	150 96	71 73	26 68	15 30	129 13	81 38	216 02	104 94	48 95	6 73	1,226 26
Repairs (Material	3,865 05	2,233 11	10,309 06	3,127 55	1,908 62	150 86	9,539 38	187 58	2,336 98	11,419 35	1,177 52	1,723 10	47,978 16
Repairs (Wages	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rental of tugs	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Contingencies	.....	5 00	689 05	264 25	433 50	3 40	76 50	100 30	225 65	128 97	41 15	.....	1,967 77
Total Expenses	12,258 30	9,346 15	19,209 14	10,124 17	8,826 90	7,008 77	15,764 23	8,262 64	8,700 41	18,095 78	12,645 12	5,171 36	135,412 97

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.					RENTED TUGS.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Point Grey	Jan 1	Dec 31	1st Narrows, Vancouver, B.C.	25,638 67					

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1st Narrows, Vancouver, B.C.	50,444 51	13,259 81	90 40	13,653 71	960 00	.....	5,832 35	1,226 26	47,978 16	.....	.....	1,967 77	135,412 97
Totals	50,444 51	13,259 81	90 40	13,653 71	960 00	.....	5,832 35	1,226 26	47,978 16	.....	.....	1,967 77	135,412 97

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
1st Narrows, Vancouver, B.C.	Jan. 1	Dec. 31	Gravel	857,220	4,624·5	2,517·5	$5·37	$0·157
Totals				857,220	4,624·5	2,517·5	$5·37	0·157

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
1st Narrows	6·50	30·00	34·00	35·25	33·75	20·00	93·75	.....	17·50	.....	.....
Wallace Shipyard	162·50	.....	.....	.....	.....	19·00	5·00	.....	.....	.....	.....
1st Narrows	281·75	23·50	2·00	51·50	35·25	69·50	234·25	.....	3·00	1·00	.....
Wallace Shipyard	434·50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1st Narrows	74·25	1·00	.....	0·75	0·75	26·00	99·00	.....	.....	1·50	.....
Totals, hours	959·50	54·50	36·00	87·50	69·75	134·50	432·00	.....	20·50	2·50	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
1st Narrows	3·00	6·00	71·50	.....	84·25	435·50	Jan. 1st to Mar 20th, 1915.
Wallace Shipyard	28·50	.....	.....	.....	2·00	217·00	Mar. 22nd to April 19th, 1915.
1st Narrows	8·50	.....	.....	.....	84·25	794·50	April 19th to Sept. 16th, 1915.
Wallace Shipyard	.....	.....	.....	.....	.....	434·50	Sept. 16th, 1915, to Nov. 15th, 1915.
1st Narrows	.....	.....	.....	.....	22·25	225·50	Nov. 15th, 1915, to Dec. 31st, 1915
Totals, hours	40·00	6·00	71·50	.....	192·75	2,107·00	

General Remarks: Dismantling top tumbler, cleaning and painting at Wallace Shipyard, March 22nd, 1915, to April 19th, 1915. New bucket chain and tumblers renewed at Wallace Shipyard, September 16th, 1915, to November 13th, 1915.

DREDGE, P.W.D. No. 307 ("MUDLARK"), PROVINCE OF BRITISH COLUMBIA.

(3 Cubic Yard Dipper Type.)

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total
Cubic yards handled	21,350	14,350	24,650	18,300	23,100	21,950	15,150	18,400	8,800	9,200	2,400	2,200	179,850
Class of material	Mud and clay.	Mud and clay.	Mud and clay.	Mud and clay.	Mud and clay.	Grey clay.	Grey clay.	Sand and gravel.	Sand and gravel.	Sand and gravel.	Sand and gravel.	Sand and gravel.	
Total possible dredging time hrs	441·50	325·50	448·50	428·50	445·00	460·00	381·00	457·00	229·00	224·50	210·00	238·50	4,292·00
Total time lost hrs	179·00	163·50	142·50	200·00	142·50	162·00	180·50	173·00	74·50	56·00	165·50	183·50	1,822·50
Hours actually dredging	265·50	162·00	306·00	228·50	302·50	298·00	200·50	284·00	154·50	168·50	44·50	55·00	2,469·50
C.yds. handled per hour	80·50	88·50	80·50	81·00	76·00	73·00	75·00	65·00	57·00	55·00	54·00	40·00	73·00

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.
Wages	2,431 29	2,333 72	2,384 41	2,377 82	2,350 91	2,481 22	2,198 64	2,302 24	1,271 50	1,259 05	1,354 94	1,214 29	23,960 03
Fuel, coal and oil	791 80	557 50	831 00	705 04	716 55	718 90	607 90	751 40	489 30	432 80	168 00	211 26	6,981 45
Water	5 40	17 40	28 80	21 84	27 24	27 10	14 84	8 53			0 80	56 61	208 56
Subsistence	564 36	535 28	637 83	305 35	837 55	566 36	642 36	600 35	382 97	349 88	454 15	402 07	6,278 51
Wharfage													
Pilotage													
Stores (Machinery)	216 20	254 99	463 80	55 23	309 59	779 87	175 22	275 85	92 24	256 48	376 91	204 50	3,460 88
Stores (General)	23 06	75 49	59 03	25 98	22 98	42 75	122 96	50 36	16 11	15 66	113 27	38 20	605 85
Repairs (Material)	1,514 56	1,519 28	741 32	960 98	495 79	265 48	1,247 94	1,216 23	246 50	49 02	1,245 40	6,727 10	16,262 60
Repairs (Wages)													
Rental of tugs													
Contingencies	4 75	7 40	3 00	8 41	8 90	5 50	433 84	3 60	3 85	15 16	9 90	84 80	589 11
Total Expenses	5,551 42	5,301 06	5,152 19	4,460 65	4,769 51	4,887 18	5,443 70	5,238 56	2,502 47	2,378 05	3,723 37	8,938 83	58,346 99

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.					RENTED TUGS.			
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses.
Point Hope	Jan. 1	Dec. 31	Victoria Harbour	$ cts 12,177 42					$ cts.

NOTE.—Tug *Point Hope* in attendance on both Dredge *Mudlark* and Dredge *Victoria*. This amount is proportion chargeable to Dredge *Mudlark*.

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.
Victoria Harbour, B.C.	23,960 03	6,981 45	208 56	6,278 51	.....	.....	3,460 88	605 85	16,262 60	.....	.....	589 11	58,346 99
Totals	23,960 03	6,981 45	208 56	6,278 51	.....	.....	3,460 88	605 85	16,262 60	.....	.....	589 11	58,346 99

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Victoria Harbour, B.C.	Jan. 1	Dec. 31.....	Mud, sand and gravel.....	179,850	4,292	2,469·50	$23·62	$0·324
Totals	.....	.....	.....	179,850	4,292	2,469·50	23·62	0·324

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Victoria Harbour, B.C.	585·50	410·00	158·50	6·00	9·00	133·50	41·00	.....	69·50	10·00	.....
Totals, hours	585·50	410·00	158·50	6·00	9·00	133·50	41·00	.....	69·50	10·00	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Victoria Harbour, B.C.	54·50	.....	.....	.....	345·00	1,822·50	January 1st to December 31st, 1915.
Totals, hours	54·50	.....	.....	.....	345·50	1,822·50	

General Remarks: Annual overhaul and inspection of boilers at Victoria Machinery Depot, February 15th to 25th, 1915. Docked at Yarrows, Ltd., for general overhaul of hull, and for repairs to port spud lifting shaft and cast iron bracket, July 22nd to August 4th, 1915. Dredge sank at her moorings Saturday, Nov. 5th, 1915, at 10 p.m. Floated Sunday morning, Nov. 14th, 1915, and docked at V.M.D. Nov. 20th to Dec. 21st, 1915. Night shift abandoned August 31st, 1915.

DREDGE, P.W.D. No. 309 ("PELICAN"), PROVINCE OF BRITISH COLUMBIA.

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled	3,911	4,671	4,605	4,240	3,940			5,905	3,859	3,638	3,056	53	37,878
Class of material	Clay	Clay and sand.	Clay, sand and gravel.	Clay, gravel, sand and rock.	Gravel, clay and hard pan			Sand	Clay and hard pan.	Clay, hard pan and sand	Clay	Clay	
Total possible dredging time.....hrs	234	216	243	234	207			234	234	234	234	36	2,106
Total time lost.....hrs	56	27	40	37	32			41	40	77	52	31	433
Hours actually dredging	178	189	203	197	175			193	194	157	182	5	1,673
C.yds. handled per hour	21·9	24·7	22·6	21·52	22·51			30·59	19·89	23·17	16·79	10·6	22·64

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts.	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
Wages	460 00	460 00	460 00	460 00	432 40			456 76	460 00	460 00	451 83	43 21	4,144 20
Fuel, coal and oil		50 00				84 00		56 00		6 70	100 00		296 70
Water													
Subsistence	134 85	161 60	147 50	152 60	98 80	64 05		75 17	109 02	66 10	197 38	127 67	1,334 74
Wharfage													
Pilotage													
Stores {Machinery	4 00	10 30	283 46							120 00			417 76
Stores {General						10 00							10 00
Repairs {Material						308 01	94 16	224 95					627 12
Repairs {Wages						378 16		355 14					733 30
Rental of tugs	18 00			35 00	35 00			135 00				260 00	483 00
Contingencies			2 00	2 00				8 00		2 25	5 00		19 25
Total Expenses	616 85	681 90	892 96	649 60	566 20	844 22	94 16	1,311 02	569 02	655 05	754 21	430 88	8,066 07

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.

RENTED TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Sea Tractor	Jan. 19		Shuswap	18 00
Sea Tractor	Mar. 22		Shuswap	35 00
Sea Tractor	May 27		Shuswap at Govt. Wharf	35 00
Sea Tractor	Aug. 2 & 3		Govt. Wharf to Sicamous	100 00
Sea Tractor	Aug. 31		Sicamous to Wilcox's Landing.	35 00
Sea Tractor	Oct '20 &21		Wilcox's Landing to Seymour..	75 00
Maud Annis	Nov. 4		Seymour Arm to Salmon Arm	70 00
Sea Tractor	Dec. 2	Dec. 4	Salmon Arm to Govt. Wharf Chase	115 00

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses workign at	Wages.	Fuel.	Water.	Subsis-teace.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental	Coatin-gencies.	Total Expenses.
							Machinery.	Geaeral.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts.
Shuswap	1,411 96	101 09	.....	454 75	.....	.....	142 32	3 41	213 65	249 85	164 56	6 56	2,748 15
Shuswap	921 49	65 97	.....	296 79	.....	.....	92 90	2 22	139 45	163 04	107 39	4 28	1,793 53
Sicamous	478 08	34 23	.....	153 98	.....	.....	48 19	1 15	72 36	84 59	55 72	2 22	930 52
Wilcox's Landiag (Salmon Arm)	725 78	51 97	.....	233 76	.....	.....	73 16	1 76	109 82	128 43	84 59	3 37	1,412 64
Seymour Arm	200 65	14 36	.....	64 62	.....	.....	20 24	0 48	30 36	35 50	23 39	0 93	390 53
Salmon Arm (City Wharf)	406 24	29 08	.....	130 84	.....	.....	40 95	0 98	61 48	71 89	47 35	1 89	790 70
Totals	4,144 20	296 70	.....	1,334 74	.....	.....	417 76	10 00	627 12	733 30	483 00	19 25	8,066 07

Expenses Working at	Time Working.		Kind of material.	No. C. Yds. Movd.	Possiblo Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Shuswap	Jan 1	Mar. 31	Clay, sand and gravel	13,187	693	570	$4·82	20·83
Shuswap	April 1	May 27	Clay, sand, gravel and hard pan	8,180	441	372	4·82	21·92
Dredge at Govt. Dry Dock	May 28	July 31	.....	.....	.....	.....	.....	.....
Sicamous	Aug. 2	Aug. 30	Sand	5,905	225	193	4·82	15·75
Wilcox's Landing (Salmon Arm)	Aug. 31	Oct. 19	Clay, hard pan and sand	5,542	387	293	4 82	25·48
Seymour Arm	Oct. 20	Nov. 3	Sand	2,878	117	81	4·82	13·56
Salmon Arm (City Wharf)	Nov. 4	Dec. 4	Clay	2,186	243	164	4·82	36·17
Totals				37,878	2,106	1,673	.....	21·29

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Shuswap	33	23	12	.....	.....	27	.....	.....	15	24	.....
Dredge at Govt. Wharf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sicamous	.....	.....	.....	.....	.....	.....	.....	.....	18	.....	.....
Wilcox's Landing (Salmon Arm)	18	.....	12	.....	.....	18	.....	.....	7	7	.....
Seymour Arm	.....	1	.....	.....	.....	.....	.....	.....	14	2	.....
Salmoa Arm (City Wharf)	2	4	1	.....	.....	.....	.....	.....	30	14	.....
Totals, houre	53	28	25	.....	.....	45	.....	.....	84	47	.....

Timo Lost at	Cleaning.		Inspectiag Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Shuswap	38	5	.....	.....	15	192	1st January to 27th May.
Dredge at Govt. Wharf	.....	.....	.....	.....	.....	.....	May 28th to July 31st.
Sicamous	8	.....	.....	.....	6	32	August 2nd to August 30th.
Wilcox's Landing (Salmon Arm)	14	5	.....	.....	13	94	August 31st to October 19th.
Seymour Arm	4	5	.....	.....	10	36	October 20th to November 3rd.
Salmon Arm (City Wharf)	16	.....	.....	.....	12	79	November 4th to December 4th.
Totals, hours	80	15	.....	.....	56	433	

Geaeral Remarks: Dredge in commission at Shuswap on January 1, 1915; laid up for season at Govt. Wharf, Chase, on December 5th, 1015. From the 26th May to July 31st, the *Pelican* was laid up at the Govt. Yard at Chase, and underwent general overhauling, cleaning and repairs.

DREDGE, P.W.D. No. 313 ("VICTORIA"), PROVINCE OF BRITISH COLUMBIA.

(Clam Shell Type.)

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cubic yards handled	1,830	1,560	2,395	1,515	3,095	3,900	5,365	3,214	2,288	4,212	2,750	3,432	35,562
Class of material	Rock	Rock	Rock and hard clay.	Rock	Rock and mud.	Rock and mud.	Mud	Mud and hard clay.	Mud and hard clay.	Hardpan	Hard clay	Hard clay and mud.	
Total possible dredging time hrs	224·5	210	238·5	229	224·5	229	234	229	229	224·5	229	238·5	2,739·5
Total time lost hrs	66·5	65·5	60·5	112·5	50·5	69	57·5	83·5	153·5	70	110	139	1,038
Hours actually dredging	158	144·5	178	116·5	174	160	176·5	145·5	75·5	154·5	119	99·5	1,701·5
C.yds. handled per hour	11	10	13	12	17	24	30	22	30	27	23	34	20

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts	$ cts	$ cts.	$ cts.	$ cts.
Wages	545 00	545 00	545 00	590 73	462 36	413 44	482 47	450 06	452 84	469 04	521 97	557 12	6,035 03
Fuel, coal and oil	73 50	130 50	80 56	115 54	113 75	149 50	141 16	158 60	92 30	104 00	156 00	114 14	1,390 55
Water				0 36	2 16	0 50	25 81	0 17	10 43		27 85	5 59	72 87
Subsistence	113 68	118 81	127 22	60 45	150 04	147 82	76 86	130 81	195 34	142 80	138 90	165 31	1,568 04
Wharfage													
Pilotage													
Stores Machinery	184 02			287 35	0 04	51 59	197 37	36 87	133 83	214 15	194 39	55 82	1,355 43
Stores General	13 65	11 50		10 14	0 13	10 97	3 22	3 06	21 38	63 56	3 41	3 39	144 41
Repairs Material			2 22	1,067 39	42 66	646 08	375 45	37 77	3 01	1,016 36	4 73	44 89	3,240 56
Repairs Wages													
Rental of tugs	35 00												35 00
Contingencies		68 00	191 65	3 24			164 74	55 50		4·54	15 00	161 56	664 23
Total Expenses	964 85	873 81	946 65	2,135 20	771 14	1,419 90	1,437 08	872 84	909 13	2,014 45	1,062 25	1,107 82	14,515 12

DETAILS OF TUG SERVICE—Tugs in attendance, and included in these operations.

DEPARTMENT TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.
Point Hope	Jan 1	Mar. 31	Nanaimo	362 65
Point Hope	April 1	June 7	Victoria	247 21
Point Hope	June 8	Dec. 10	Rock Bay	638 11
Point Hope	Dec. 11	Dec. 31	Victoria	36 21
				1,284 18

RENTED TUGS.

Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts
Nanaimo Harbour	1,704 29	395 23	20 58	442 82	.....	.....	382 77	40 78	915 13	.....	9 89	187 58	4,099 07
Victoria Harbour	1,161 74	269 41	14 03	301 85	.....	.....	260 92	27 80	623 81	.....	6 74	127 86	2,794 16
Rock Bay	2,998 81	695 44	36 21	779 16	.....	.....	673 51	71 76	1,610 23	.....	17 39	330 05	7,212 56
Victoria Harbour	170 19	39 47	2 05	44 21	.....	.....	38 23	4 07	91 39	.....	0 98	18 74	409 33
Totals	6,035 03	1,399 55	72 87	1,568 04	.....	.....	1,355 43	144 41	3,240 56	.....	35 00	664 23	14,515 12

Expenses Working at.	Time Working.		Kind of material.	No. C. Yds. Moved.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Nanimo Harbour	Jan. 1	Mar. 31	Broken rock	5,785	673·0	480·5	$8·53	$0·708
Victoria Harbour	April 1	June 7	Mud and rock	5,130	506·0	327·5	8·53	0·544
Rock Bay	June 8	Dec. 10	Mud and hard clay	22,671	1,403·0	845·5	8·53	0·318
Victoria Harbour	Dec. 11	Dec. 31	Mud	1,976	157·5	48·0	8·53	0·207
Totals				35,562	2,739·5	1,701·5	8·53	0·408

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Towing, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Nanaimo Harbour	51·5	10·5	15·5	.....	.....	9·5	68·0	.....	22·0	11·0	1·0
Victoria Harbour	87·0	1·0	.....	.....	.....	38·0	20·5	.....	22·5	2·5	.....
Rock Bay	192·0	93·0	13·0	.....	37·0	28·5	31·0	.....	4·0	16·0	.....
Victoria Harbour	52·5	2·5	9·5	.....	.....	5·0	20·0	.....	.....	2·5	.....
Totals, hours	383·0	107·0	38·0	.....	37·0	81·0	139·5	.....	48·5	32·0	1·0

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Nanaimo Harbour	.....	.....	.....	.....	3·5	192·5	Jan. 1 to March 31, 1915.
Victoria Harbour	.....	.....	.....	.....	7·0	178·5	April 1 to June 7, 1915.
Rock Bay	17·0	10·0	.....	.....	116·0	557·5	June 8 to Dec. 10, 1915.
Victoria Harbour	3·0	9·5	.....	.....	5·0	109·5	Dec. 11 to 31, 1915.
Totals, hours	20·0	19·5	.....	.....	131·5	1,038·0	

General Remarks: Overhaul and general repairs at Victoria Machinery Depot, Sept. 17 to Oct. 4, 1915. Assisting to raise dredge *Mudlark*, November 8 to 16, 1915. At Victoria Machinery Depot for dismantling and re-rigging derrick, December 13 to 20, 1915. Material "castover" at various times and not included in the above yardage, 5,827 cubic yards, for making channel to flout dredge.

DREDGE, P.W.D. No. 1 LOBNITZ ROCK BREAKER, PROVINCE OF BRITISH COLUMBIA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
No. of blows	44,533	37,076	47,651	37,839	41,610	40,717	30,174	12,280	26,642	38,721	22,654	46,542	426,439
No. of holes	3,633	3,196	3,813	2,873	3,236	3,305	2,503	947	2,035	3,031	1,636	3,890	34,098
Estimated cubic yards broken	3,083	1,847	2,377	2,058	2,110	1,936	1,129	682	1,188	2,289	1,007	2,723	22,428
Total possible dredging time.....hrs	450·00	406·50	479·00	449·50	448·00	448·50	405·00	324·50	375·00	433·50	456·00	480·00	5,155·50
Total time lost	120·00	129·00	126·50	173·75	130·00	139·25	175·50	234·00	157·75	135·00	282·00	131·25	1,934·00
Hours actually dredging	330·00	277·50	352·50	275·75	318·00	309·25	229·50	90·50	217·25	298·50	174·00	348·75	3,221·50
No. of blows per hour	138·00	133·50	135·00	137·00	131·00	131·00	131·00	136·00	123·00	130·00	130·00	133·00	134·00

Details of Expenditures by Months.

Items of Expense.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	1,197 95	1,167 67	1,218 53	1,204 00	1,150 31	1,172 92	1,134 59	1,109 26	1,099 83	1,152 25	1,247 18	1,125 63	13,980 12
Fuel, coal and oil	465 58	309 11	374 78	338 12	301 62	387 36	206 20	125 24	358 17	209 26	432 03	398 96	3,906 43
Water	20 00		13 80		19 00				20 85				73 65
Subsistence	215 03	308 10	281 25	104 08	328 69	253 09	249 59	311 02	302 66	318 35	319 93	329 88	3,321 67
Wharfage													
Pilotage													
Stores {Machinery	3,388 82	147 62	76 65	217 92	380 09	172 08	1,398 69	102 69	19 88	155 01	50 48	60 57	6,170 50
Stores {General	19 06	21 60	0 64	20 38	37 67	6 75	45 20	53 26	49 22	17 85	14 97	20 52	307 12
Repairs {Material	320 68	1,120 42	94 86	419 65	680 44	3 15	232 45	891 55	793 00	112 42	737 31	7 72	5,413 65
Repairs {Wages													
Rental of tugs													
Contingencies	1 50	1 00	64 00	5 91	8 15	2 00	16 25	2 70	14 75	8 00	3 00	1 50	128 76
Total Expenses	5,628 62	3,075 52	2,124 51	2,310 06	2,905 97	1,997 35	3,282 97	2,595 72	2,658 36	1,973 14	2,804 90	1,944 78	33,301 90

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Victoria Harbour, B.C.	13,980 12	3,906 43	73 65	3,321 67	.....	.....	6,170 50	307 12	5,413 65	.....	.....	128 76	33,301 90
Totals	13,980 12	3,906 43	73 65	3,321 67	.....	.....	6,170 50	307 12	5,413 65	.....	.....	128 76	33,301 90

Expenses Working at	Time Working.		Kind of material.	Estimated No. C. Yds. Broken	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Victoria Harbour, B.C.	Jan. 1	Dec. 31	Rock	22,428	5,155·5	3,221·5	$10·33	$1·48
Totals	...	...	.....	22,428	5,155·5	3,221·5	10·33	1·48

EXPLANATION OF UNAVOIDABLE LOSS OF TIME.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Sounding, etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Victoria Harbour	706·25	24·25	189·5	2·5	2·75	175·5	.....	.....	45·25	30·25	5·5
Totals, hours	706·25	24·25	189·5	2·5	2·75	175·5	.....	.....	45·25	30·25	5·5

Time Lost at	Cleaning.		Placing Moorings.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Victoria Harbour	.....	185·5	226·75	20	320	1,934	Jan. 1 to Dec. 31, 1915.
Totals, hours	.....	185·5	226·75	20	320	1,934	

General Remarks: Docked at Yarrows, Ltd., for general overhaul, June 22 to August 4, 1915. At Victoria Machinery Depot Co., Ltd., for repairs to main hoisting winch, August 11, 1915, to September 14, 1915. Assisting to raise dredge *Mudlark*, November 9 to 17, 1915.

DREDGE, P.W.D. LOBNITZ ROCK BREAKER "No. 2, PROVINCE OF BRITISH COLUMBIA.

Details of Material and Time by Months.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Estimated Cubic yds broken	1,022	894	1,526	1,413	950	1,425	1,410	1,170	1,223	710	1,916	1,789	15,448
No. of blows	17,050	16,961	23,016	19,423	12,188	18,140	19,711	14,438	19,111	8,518	22,701	19,955	211,293
No. of holes	1,160	1,090	1,871	1,675	1,140	1,812	2,317	1,468	1,682	878	2,314	2,147	19,552
Total possible dredging time. hrs	224·50	210·00	238·50	229·00	224·50	229·00	234·00	229·00	229·00	224·50	229·00	238·50	2,739·50
Total time lost. hrs	93·75	89·75	77·25	95·50	138·75	101·50	86·25	113·75	93·25	160·25	56·25	79·50	1,185·75
Hours actually dredging	130·75	120·25	161·25	133·50	85·75	127·50	147·75	115·25	135·75	64·25	172·75	159·00	1,553·75
No. of blows per hour	130	141	143	145	142	142	133	125	140	133	131	125	135

Details of Expenditures by Months.

Items of Expense.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	731 44	727 84	726 60	741 00	741 44	739 00	739 50	738 54	754 00	756 44	752 00	752 57	8,900 37
Fuel, coal and oil	272 41	276 67	225 95	242 00	179 12	115 50	170 23	276 97	113 00	144 50	268 75	153 95	2,439 05
Water	10 00	10 00	10 00	10 00	10 00	10 00	10 00	12 50	10 00	10 00	10 00	10 00	122 50
Subsistence	208 32	194 07	208 48	198 15	252 59	193 62	209 97	202 56	219 77	215 74	207 52	215 27	2,526 06
Wharfage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pilotage	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stores {Machinery	13 77	43 68	183 88	78 37	771 33	62 28	24 65	144 11	159 73	736 60	92 88	29 06	2,340 34
Stores {General	38 70	442 82	66 40	36 20	69 45	14 70	13 50	12 45	76 05	40 57	15 20	4 00	830 04
Repairs {Material	82 99	.....	72 40	4,714 41	523 42	38 14	20 43	2,208 55	4 00	4,305 50	16 19	23 88	12,099 82
Repairs {Wages	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rental of tugs	5 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5 00
Contingencies	.....	.....	15 45	68 05	15 00	172 35	.....	1 00	8 05	.....	3 00	9 32	292 22
Total Expenses	1,362 63	1,695 08	1,509 16	6,088 18	2,562 35	1,345 59	1,188 28	3,686 68	1,344 60	6,209 35	1,365 45	1,198 05	29,555 40

Details of Tug Service—Tugs in attendance, and included in these operations.

Department Tugs.					Rented Tugs.				
Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts	Name of Tug.	Employed. From	Employed. To	Locality.	Expenses. $ cts.

Details of Expenses and Results Obtained at Points of Work.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Wharfage.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery.	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.
Nanaimo Harbour, B.C.	8,900 37	2,439 05	122 50	2,526 05	.....	.....	2,340 34	830 04	12,099 82	.....	5 00	292 22	29,555 40
Totals	8,900 37	2,439 05	122 50	2,526 06	.....	.....	2,340 34	830 04	12,099 82	.....	5 00	292 22	29,555 40

Expenses Working at	Time Working.		Kind of material.	Estimated No. C. Yds. Broken.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Nanaimo Harbour, B.C.	Jan. 1	Dec. 31	Rock	15,448	2,739·5	1,553·75	$19·01	$1·91
Totals	.....	.....	.....	15,448	2,739·5	1,553·75	19·01	1·91

Explanation of Unavoidable Loss of Time.

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays	Waiting on		Placing etc.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Nanaimo Harbour, B.C.	481·25	212·75	20	2	.....	81	.....	.....	56	114	1·5
Totals, hours	481·25	212·75	20	2	.....	81	.....	.....	56	114	1·5

Time Lost at	Cleaning.		Inspecting Boilers.	Sounding.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Nanaimo Harbour, B.C.	.....	.....	.....	18·25	199	1,185·75	January 1st to December 31st, 1915.
Totals, hours	.....	.....	.....	18·25	199	1,185·75	

General Remarks: General overhaul at B.C. Marine Ways, October 7th to 21st, 1915. Dredge only working single shift.

DREDGE, P.W.D. No. 1 & 2 (DRILLING PLANTS), PROVINCE OF BRITISH COLUMBIA.

DETAILS OF MATERIAL AND TIME BY MONTHS.

Items.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Estimated cubic yards broken	1,120	1,157	1,097	648	700	1,021	828	1,181	932	836	822	1,146	11,488
Class of material	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock	Rock
Total possible dredging time.....hrs	900·00	840·00	960 00	924 50	890·00	920·00	930·00	920·00	920·00	780·50	920·00	960·00	10,865
Total time lost	316·50	249·50	232·25	363·50	262·75	208·25	189·00	201·00	224·25	271·50	328·00	335·00	3,271·50
Hours actually dredging	583·50	590·50	727·75	561·00	627·25	621·75	741·00	719·00	695·75	509·00	592·00	625·00	7,593·50
C.yds. handled per hour													

DETAILS OF EXPENDITURES BY MONTHS.

Items of Expense.	$ cts.	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Wages	2,393 00	2,318 86	2,229 61	2,214 40	2,212 19	2,248 48	2,222 41	2,234 36	2,383 80	2,350 67	2,257 48	2,318 00	27,383 35
Fuel, coal and oil	364 49	239 68	540 31	416 47	529 78	337 06	430 17	406 82	440 71	305 95	312 98	376 32	4,700 74
Water						18 00				17 50			35 50
Subsistence													
Explosives				898 03	853 15	990 77	602 76	1,165 84	995 94	852 31	902 50	901 05	8,162 35
Pilotage													
Stores {Machinery	224 07	402 67	103 96	707 20	113 71	64 38	124 65	135 39	256 19	55 80	263 37	351 10	2,802 49
Stores {General	13 25	14 95	38 00	126 28	7 40	68 14	64 55	5 93	64 55	162 66	63 08	17 31	646 10
Repairs {Material	2 42	2 08	79 08	71 30		389 61	102 60		42 06	199 27	636 92	13 92	1,540 16
Repairs {Wages													
Rental of tugs													
Contingencies	992 02	1,210 40	1,348 20		59 00			59 00	97 15				3,765 77
Total Expenses	3,989 25	4,188 64	4,339 16	4,433 77	3,775 23	4,116 44	3,547 14	4,007 34	4,281 30	3,944 16	4,436 33	3,977 70	49,036 46

DETAILS OF TUG SERVICE—Tugs in attendance and included in these operations.

DEPARTMENT TUGS					RENTED TUGS.				
Name of Tug.	Employed.		Locality.	Expenses.	Name of Tug	Employed.		Locality.	Expenses.
	From	To		$ cts.		From	To		$ cts.

DETAILS OF EXPENSES AND RESULTS OBTAINED AT POINTS OF WORK.

Expenses Working at	Wages.	Fuel.	Water.	Subsistence.	Explosives.	Pilotage.	Stores.		Repairs.		Rental Tugs.	Contingencies.	Total Expenses.
							Machinery	General.	Material.	Wages.			
	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.
Victoria Harbour, B.C	27,383 35	4,700 74	35 50	.....	8,162 35	.....	2,802 49	646 10	1,540 16	.....	.....	3,765 77	49,036 46
Totals	27,383 35	4,700 74	35 50	.....	8,162 35	.....	2,802 49	646 10	1,540 16	.....	.....	3,765 77	49,036 46

Expenses Working at	Time Working.		Kiad of material.	Estimated Broken.	Possible Work Hours.	Actual Work Hours.	Hour-Cost Actually Dredging.	Cost per Cubic Yard.
	From	To						
Victoria Harbour, B. C	Jan. 1	Dec. 31	Rock	11,488	10,865	7,593·5	$6·41	$4·25
Totals	.....	.....	.....	11,488	10,865	7,593·5	$6·41	$4·25

EXPLANATION OF UNAVOIDABLE LOSS OF TIME

Time Lost at	Repairs.	Moving Dredge.	Storms and Weather.	Fog.	Tide and Current.	Holidays.	Waiting on		Placing Moorings.	Procuring	
							Scows, tugs.	Orders.		Fuel.	Water.
Victoria Harbour, B.C	258·5	115·25	279	.....	55	361·5	.....	.....	67·5	40	.....
Totals, hoars	258·5	115·25	279	.....	55	361·5	.....	.....	67·5	40	.....

Time Lost at	Cleaning.		Inspecting Boilers.	Short Supplies.	Miscellaneous.	Total.	Remarks.
	Plant.	Boilers.					
Victoria Harbour, B.C	114·5	33	.....	.....	1,947·25	3,271·5	Jan. 1st, 1915, to Dec. 31st, 1915.
Totals, hours	114·5	33	.....	.....	1,947·25	3,271·5	

General Remarks: Cleaning and painting Drilling Plant No. 1, October 7th to 13th, 1915. General overhaul of Drilling Plant No. 2, May 28th to June 2nd, 1915. Cleaning and painting Drilling Plant No. 2, October 25th to 30th, 1915. The large amount of time shown under Miscellaneous includes such items as cleaning holes, sticking of drills, and loading, etc.

CONTRACT DREDGING, 1915-16.

Beacon Bar, St. John Harbour, N.B.—Under contract No. 7304, extension, with Maritime Dredging and Construction Co. Dredges *Cynthia* and *St. John.*

Quantity removed: 108,344·5 cubic yards, scow measurement, at 34 cents per cubic yard. Class B, clay, sand and gravel.

Amount passed for payment, $36,837.13; inspection, $3,712.66; total expenditure, $40,549.79.

Work commenced: April 1; completed, May 10, 1915.

Object of work: Completion of harbour improvements; shelter basin at wharves and berths.

NOTE.—Deduction for dredging below grade, $43,840.46, made from final estimate.

Bathurst, N.B.—Under contract No. 10158, with Northern Dredging & Construction Co. Dredges *Hayward, Invader* and *Gray Loggie.*

Quantity removed: 361,575 cubic yards, place measurement, at 30 cents per cubic yard. Class B, sand, mud and gravel.

Amount passed for payment, $117,105.07; inspection, $3,894.80; total expenditure, $120,999.87.

Work commenced: May 15; suspended for season, December 11, 1915.

Object of work: Dredging inner entrance channel, 200 feet wide to 17 feet low water.

Beauport, Que. (Channel to Wharf).—Under contract No. 10231, extension, with W. J. Poupore Co. Dredge *Duke of York.*

Quantity removed: 25,983 cubic yards, place measurement, at 30 cents per cubic yard. Class B, mud, sand and boulders.

Amount passed for payment, $7,794.90; inspection, $775.65; total expenditure, $8,570.55.

Work commenced: May 11; completed, October 21, 1015.

Object of work: To dredge basin at mouth of river to 4 feet low water.

Bruce Mines, Ont.—Under contract No. 10443, with Soo Dredging & Construction Co. Dredge *No. 3.*

Quantity removed: 45,037 cubic yards, place measurement, at 15½ cents per cubic yard. Class B, mud and clay.

Amount passed for payment, $6,980.74; inspection, $650.20; total expenditure, $7,630.94.

Work commenced: May 10; completed, June 10, 1915.

Object of work: Dredging channel 2,400 by 150 feet to 16 feet deep.

Buctouche, N.B.—Under contract No. 10806, with Félix Michaud. Dredge *Excavator.*

Quantity removed: 15,115·4 cubic yards, scow measurement, at 36 cents per cubic yard. Class B, sand and clay.

Amount passed for payment, $5,401.17; inspection, $327.26; total expenditure, $5,728.43.

Work commenced: July 13; completed, November 24, 1915.

Object of work: To maintain a channel by redredging, 40 feet wide through the canal 1,100 feet long, built through Buctouche Beach and by giving this route, to shorten by 14 miles the distance to Buctouche harbour from fishing grounds, and to provide shelter for fishing vessels.

Bath, Ont.—Under agreement with R. Weddell & Co. Dredge *Togo.*

Quantity removed: 9,506 cubic yards, place measurement, at 35 cents per cubic yard. Class B, mud, gravel and rock.

Amount passed for payment, $3,327.10; inspection, $100.49; total expenditure, $3,427.59.

Work commenced: July 14; completed, August 9, 1915.
Object of work: To provide basin in which boats may lie while taking on fish and farm produce.

Bonzards, Ont.—Under agreement 14, with R. Weddell Co. Dredge *Togo.*
Quantity removed: 9,506 cubic yards, place measurement, at 35 cents per cubic yard. Class B, mud, gravel and rock.
Amount passed for payment, $718.48; inspection, $22.96; total expenditure, $741.44.
Work commenced: August 16; completed, August 21, 1915.
Object of work: To facilitate shipping by providing a draught of 10 feet for vessels.

Belleville, Ont.—Under agreement 49, with Randolph McDonald Co. Dredge *No. 10.*
Quantity removed: 19,132 cubic yards, place measurement, at 25 cents per cubic yard. Class B, mud, gravel and sawdust.
Amount passed for payment, $4,783; inspection, $114; total expenditure, $4,897.
Work commenced: September 13; completed, October 20, 1915.
Object of work: To improve approach to new Government wharf.

Charlottetown (Marine Slip, Southport), P.E.I.—Under contract No. 10015, with V. T. Bartram. Dredge *E. Hale No. 1.*
Quantity removed: 42,217·4 cubic yards, place measurement, at 28 cents per cubic yard. Class B, mud and sand (of which 851·4 cubic yards castover, at 18⅔ cents).
Amount passed for payment, $12,120.19; inspection, $313.57; total expenditure, $12,433.76.
Work commenced: April 20; suspended for season, July 31, 1915.
Object of work: To complete the dredging of an entrance slip and foundation for marine railway, outer 520 feet being from 200 feet wide, inner end to about 400 feet wide up to 25½ deep.

Charlottetown (Rocky Point), P.E.I.—Under contract No. 10730, with V. T. Bartram. Dredge *E. Hale No. 1.*
Quantity removed: 60,432·7 cubic yards, scow measurement, at 16·95 cents per cubic yard. Class B, mud and clay (of which 821·8 cubic yards castover, at 11·3 cents per yard, place).
Amount passed for payment, $10,084.65; inspection, $634.35; total expenditure, $10,719.
Work commenced: August 2; completed, December 2, 1915.
Object of work: Dredging channel from deep water in West river to head of ferry wharf; also, dredging of ferry berth and berths 200 by 60 feet on sides of guide piers.

Chipman, N.B.—Under agreement with New Brunswick Construction Co. Dredge *New Brunswick No. 1.*
Quantity removed: 9,933·8 cubic yards, scow measurement, at 27½ cents per cubic yard. Class B, sand, mud, rocks and bark.
Amount passed for payment, $2,731.79; inspection, $42; total expenditure, $2,773.79.
Work commenced: June 24; completed, July 8, 1915.
Object of work: Cleaning up of material silted into basin and channel leading to basin at wharf that vessels may have former facilities in approaching and leaving wharf.

Cobourg, Ont.—Under agreement with R. Weddell Co. Dredge *Togo.*
Quantity removed: 12,388 cubic yards, place measurement, at 20 cents per cubic yard. Class B, sand.
Amount passed for payment, $2,477.60; inspection, $159.45; total expenditure, $2,637.05.
Work commenced: October 13; suspended for season, November 24, 1915.
Object of work: Improvement of navigation in Cobourg harbour.

Dartmouth, N.S.—Under agreement with Nova Scotia Dredging Co.
Amount passed for payment, $297.02, to pay drawback of 1914.

Douglas Harbour, N.B.—Under agreement with St. John River Dredging & Construction Co. Dredge *Tantâwanta.*
Quantity removed: 5,288 cubic yards, place measurement, at 35 cents per cubic yard. Class B, sand, mud and clay.
Amount passed for payment, $1,850.80; inspection, $21; total expenditure, $1,871.80.
Work commenced: June 3, completed June 10, 1915.
Object of work: Provision of basin at Government wharf.

Douglastown, N.B.—Under agreement with F. A. Fowlie. Dredge *Fowlie.*
Quantity removed: 8,501 cubic yards, scow measurement, at 35 cents per cubic yard. Class B, mud and clay.
Amount passed for payment, $2,975.35; inspection, $116; total expenditure, $3,091.35.
Work commenced: July 13; completed, August 26, 1915.
Object of work: To provide berth in front of Miramichi Lumber Company's mill wharf.

Deer Island, Honey Harbour, Ont.—Under agreement 44, with Morgan & Toole. Dredge *Drillboat.*
Quantity removed: 486 cubic yards, place measurement, at $6.25 per cubic yard. Class A, rock.
Amount passed for payment, $3,037.50.
Work commenced: August 11; completed, October 31, 1915.

Duff's Channel, Honey Harbour, Ont.—Under agreement 44, with Penetang Dredging Co.
Quantity removed: 1,043 cubic yards, place measurement, at 70 cents per cubic yard. Class, clay, sand and stone.
Amount passed for payment, $730.10; inspection, $42.50; total expenditure, $772.60.
Work commenced: September 2; completed, September 12, 1915.

Foul Ground, N.B. (St. John Harbour).—Under contract No. 9426, completion, with Maritime Dredging & Construction Co.
Removal of boulders, $706; amount passed for payment balance on final estimate, $41.74; total expenditure, $747.74.
Work commenced: July 28; completed, October 6, 1915.

False Creek, B.C.—2-17—Under contract No. 9493, with Pacific Dredging Co. Dredges *Robson No. 1* and *Puget Sound.*
Quantity removed: 1,390,170 cubic yards, place measurement, at 21 cents per cubic yard. Class B.
Amount passed for payment, $291,935.70; inspection, $10,707.22; total expenditure, $302,642.92.
Work commenced: April 1, 1915; suspended for season, March 31, 1916.
Object of work: Providing channel 350 feet wide, from deep water in harbour to Columbia street, and turning basin above Connaught bridge to 20 feet deep.

Fort William, Ont.—16—Under contract No. 7339, with Great Lakes Dredging Co. Dredges *No. 5, No. 8, No. 6, Dominion* and *Frank.*
Quantity removed: 1,701,744 cubic yards, scow measurement, at 10¼ and 22½ cents per cubic yard. Class, sand, clay and hard-pan.
Amount passed for payment, $266,009.01, including extra haul; inspection, $4,791.25; total expenditure, $270,800.26.
Work commenced May 10, 1915; suspended for season, November 25, 1915.
Object of work: Widening Kaministiquia and Mission rivers.

Fort William, Kaministiquia River, Ont.—17—Under contract No. 10831, with Great Lakes Dredging Company. Dredges *No. 8, No. 6, Dominion* and *Frank.*

Quantity removed: 635,198·3 cubic yards, place measurement, at 25 cents pre cubic yard. Class, sand and clay.

Amount passed for payment, $158,799.58; inspection, all inspection on Fort William contracts entered under 7339; total expenditure, $158,799.58.

Work commenced: June 5; completed, October 11, 1915.

Object of work: Widening entrance of Kaministiquia river.

Fort William, Ont.—18—Under contract No. 7170, with Great Lakes Dredgnig Co. Dredges *Frank, No. 6* and *Dominion.*

Quantity removed: 342,051 cubic yards, scow measurement, at 16 cents per yard. Class scow (21.44 cubic yards rock, at $2.85, included), sand, clay, hardpan and rock.

Amount passed for payment, $56,407.03; inspection included with contract 7339; total expenditure, $56,407.03.

Work commenced: July 26; suspended for season, December 4, 1915.

Object of work: Excavation of G. T. R. slip No. 2 to a depth of 25 feet.

Freddy Channel, Ont.—Under agreement with Penetanguishene Dredging Co. Dredge *Hackett.*

Quantity removed: 2,900 cubic yards, place measurement, at 40 cents per yard. Class B, hardpan, mud and sand.

Amount passed for payment, $1,160; inspection, $78; total expenditure, $1,238.

Work commenced: September 14; suspended for season, October 8, 1915.

Object of work: To provide a minimum width of 20 to 40 feet and depths of 10 feet through shoal obstructing passage of vessels through Freddy channel.

Goderich, Ont.—Under contract No. 10179, extension, with Jennings & Ross. Dredges *Goderich* and *Menesetung.*

Quantity removed: 50,268 cubic yards, scow measurement, at 16 cents per cubic yard. Class B, clay, mud, sand, gravel and hardpan.

Amount passed for payment, $8,042.88; inspection, $558.94; total expenditure, $8,601.82.

Work commenced May 6; completed, August 28, 1915.

Object of work: Completion of entrance to harbour to 22 feet.

Grimross Canal, N.B.—Under agreement with New Brunswick Construction Co. Dredge *New Brunswick No. 1.*

Quantity removed: 4,946·6 cubic yards, place measurement, at 21½ cents per yard. Class B, clay.

Amount passed for payment, $1,063.52; inspection, $28.28; total expenditure, $1,091.80.

Work commenced: June 9; completed, June 16, 1915.

Object of work: To complete depth of 11 feet at low water, minimum width of 150 feet in removal of shoal areas which exist along both sides of the cut.

Grand Lake, N.B.—Under contract No. 10889, with L. W. Nickersou. Dredges *New Brunswick No. 1* and *Tantawanta.*

Quantity removed: 53,649·6 cubic yards, place measurement, at 14½ cents per yard. Class B, mud, clay and sawdust.

Amount passed for payment, $7,785.72; inspection, $195.51; total expenditure, $7,981.23.

Work commenced September 6; suspended for season, November 17, 1915.

Object of work: To dredge a channel at entrance to Grand Lake.

Honey Harbour Cut.—See Deer Island and Duff's Channel.

Kincardine, Ont.—34—Under agreement with Marlton Dredging Co. Dredge *Menesetung.*

Quantity removed: 6,511 cubic yards, scow measurement, at 35 cents per yard. Class B, gravel, sand and silt.

Amount passed for payment, $2,278.85; inspection, $23.49; total expenditure, $2,302.34.
Work commenced: June 25; completed July 1, 1915.
Object of work: Dredging of shoal in channel between piers, also removal of portion of shoal in inner harbour basin.

Kingston (Anglin's Bay), Ont.—28—Under agreement with Thunder Bay Construction Co. Dredge *No. 5.*
Quantity removed: 13,736 cubic yards, place measurement, at 21½ cents per yard. Class B, mud.
Amount passed for payment, $2,953.24; total expenditure, $2,953.24.
Work commenced: July 21; completed, October 16, 1915.
Object of work: To improve navigation to certain wharves in Anglin's Bay inner harbour.

Little Current, Ont. (Goat Island).—13—Under contract No. 9589, extension, with Soo Dredging & Construction Co. Dredge *Excelsior.*
Quantity removed: 22,707·2 cubic yards, place measurement, at $2.90 per yard. Class A, ·30 B; 20,897·2 cubic yards Class A rock; 1,810 cubic yards Class B, clay, gravel and hardpan.
Amount passed for payment, $61,144.88; inspection, $2,995.07; total expenditure, $64,139.95.
Work commenced: May 24; completed, September 3, 1915.
Object of work: To provide a minimum depth of 21 feet at low water along the front of the wharves as constructed and proposed by the Algoma Eastern Railway Co. on Goat Island, and in so doing widening the existing channel and allow vessels easy access to these wharves.

Little Detroit, Ont.—12—Under contract No. 10531, with C. S. Boone Dredging & Construction Co. Dredge *Kingsford.*
Quantity removed: 2,500 cubic yards, place measurement, at $3 per yard. Class A, rock.
Amount passed for payment, $7,500; inspection, $794.16; total expenditure, $8,294.16.
Work commenced: October 20; suspended for season, November 30, 1915.
Object of work: To widen channel for 100 feet in north channel of Lake Huron.

Little Grassy River, Ont.—34—Under agreement with Rainy River Dredging Co. Dredge *Moose.*
Quality removed: 9,858 cubic yards, place measurement, at 45 cents per cubic yard. Class B, sand and clay.
Amount passed for payment, $4,436.10; inspection, $119.50; total expenditure, $4,555.60.
Work commenced: June 30; completed, July 19, 1915.
Object of work: To dredge channel through bars obstructing entrance to river.

Lower Derby, N.B., Southwest Miramichi River.—39—Under contract No. 10767, with Peter England. Dredge *Peter England.*
Quantity removed: 17,492·8 cubic yards, scow measurement, at 36 cents per yard. Class B, sand.
Amount passed for payment, $6,297.41; inspection, $207.25; total expenditure, $6,504.66.
Work commenced: July 5; completed, November 10, 1915.
Object of work: To dredge channel through shoals in Southwest Miramichi river.

Lower St. Louis, N.B.—46—Under District Engineer Stead, by day labour.
Amount passed for payment, $995.08.
Object of work: Completion of channel across the St. Louis lagoon.

Little Black River, N.B.—61—Under agreement with W. B. Macdonald. Dredge *Fowlie.*

Quantity removed: 2,956·1 cubic yards, place measurement, at 30 cents per yard. Class B, castover, mud and slabs.

Amount passed for payment, $886.83; inspection, $49.37; total expenditure, $936.20.

Work commenced: October 26; completed, November 15, 1915.

Object of work: To provide a channel 20 and 30 feet wide and a basin 50 feet square at wharf, the whole having a depth of 2 feet at low water.

Maquapit and French Lakes, N.B.—Under contract No. 10182, with New Brunswick Construction Co. Dredges *Tantawanta* and *New Brunswick No. 1.*

Quantity removed: 55,140·6 cubic yards, place measurement at 20 cents per yard. Class B, mud, sand and clay.

Amount passed for payment $9,013.58; inspection, $202.19; total expenditure, $9,215.77.

Work comenced April 26; completed September 13.

Object of work: Dredging channel 2,640 feet by 75 feet from Grand Lake to Maquapit lake.

Midland, Ont.—Under agreement with Canadian Dredge Company.

Quantity removed: 2,800 cubic yards, place measurement at 25 cents per yard. Class B, mill refuse and clay.

Amount passed for payment, $700; total expenditure, $700.

Work commenced: May 25; completed, May 31, 1915.

Object of work: To give 21 feet depth in front of new coal dock under construction on Playfair property.

McLures Bay, N.B.—Under agreement with New Brunswick Construction Co. Dredge *Tantawanta.*

Quantity removed: 5,156·4 cubic yards, scow measurement at 27½ cents per yard. Class B, sand.

Amount passed for payment, $1,418.01; inspection, $52.28; total expenditure, $1,470.29.

Work commenced, June 29; completed, July 21, 1915.

Object of work: To clean up channel in Salmon river through shoal about 1,700 feet long to give free passage to vessels drawing 9 feet.

Nicomen, B.C., MacDonalds Bar.—Under agreement with Moore & Pethick.

Quantity removed: 206,917 cubic yards, place measurement, at 15 cents per yard. Class B.

Amount passed for payment, $31,037.55.

Work commenced April 30, 1915; suspended for season March 11, 1916.

Object of work: Improvement of Fraser river at Nicomen as per instructions of Chief Engineer.

Owen Sound, Ont.—Under agreement with John E. Russell. Dredge *No. 10.*

Quantity removed: 5,435 cubic yards, scow measurement, at 30 cents per yard. Class, sand and clay.

Amount passed for payment, $1,630.50; inspection, $44.50; total expenditure, $1,675.

Work commenced: October 5; completed, October 13, 1915.

Object of work: To effect desired improvements at dock of Union Cement Co. to allow coal boats to land with a full cargo.

Picnic Island, Ont.—7—Under contract No. 7816, continued, with C. S. Boone Dredging & Construction Co. Dredge *Kingsford.*

Quantity removed: 16,692 cubic yards, scow measurement, at $1.70 per yard. Class A, rock.

Amount passed for payment, $28,376.40; inspection, $3,317.83; total expenditure, $31,694.23.

Work commenced: May 10; suspended for season, August 10, 1915.
Object of work: Completing improvement to channel 300 by 500 feet long through five shoals to 22 feet.

Port Hope, Ont.—15—Under contract No. 10447, with Canadian Dredging Co. Dredge *Randolph MacDonald No. 10.*
Quantity removed: 17,982 cubic yards, place measurement, at 24 cents per yard. Class B, sand, rock and mud.
Amount passed for payment, $4,315.68; inspection, $245.53; total expenditure, $4,561.21.
Work commenced: June 5; completed, August 5, 1915.
Object of work: Dredging channel between piers to 18 feet and improvement to navigation at north end of west channel for access to coal wharf.

Port Arthur, Ont.—21—Under contract No. 9490, extension, with W. E. Phin. Dredge *Kennequhair.*
Quantity removed: 611,729 cubic yards, scow measurement, at 13 cents per yard. Class B, sand and clay.
Amount passed for payment, $79,700.27; inspection, $760; total expenditure, $80,460.27.
Work commenced: May 8; suspended for season, December 8, 1915.
Object of work: To continue dredging in harbour to 25 feet.

Port Elgin, Ont.—40—Under agreement with Marlton Dredging Co. Dredge *Menesetung.*
Quantity removed: 6,937·5 cubic yards, scow measurement, at 38 cents per yard. Class, sand.
Amount passed for payment, $2,636.25; inspection, $47.42; total expenditure, $2,683.67.
Work commenced: July 3; completed, July 14, 1915.
Object of work: To provide depth of 14 feet below low water through sand bar obstructing access of vessels to Government wharf.

Penetanguishene, Ont.—58—Under agreement with Penetang Dredging Co. Dredge *Hackett.*
Quantity removed: 17,300 cubic yards, place measurement, at 24 cents per yard. Class B, clay.
Amount passed for payment, $4,152; inspection, $404.60; total expenditure, $4,556.60.
Work commenced: October 13; completed, December 9, 1915.
Object of work: To provide turning basin 500 feet wide, 20 feet deep at the Esplanade.

River St. Maurice, Que.—Under contract No. 10668, with F. C. Burns. Dredge *Capital.*
Quantity removed: 10,222 cubic yards, scow measurement, at 19½ cents per yard. Class B, sand and clay.
Amount passed for payment, $1,993.29; inspection, $204.50; total expenditure, $2,197.79.
Work commenced: May 6; completed, May 31, 1915.
Object of work: Dredging channel and basin.

Rexton, N.B.—3—Under District Engineer Stead, by day labour.
Amount passed for payment, $634.49.
Sault Ste. Marie, Ont.—Under contract No. 9065, with Soo Dredging & Construction Co. Dredge *No. 3* and *Derrick.*
Quantity removed: Class A, 655; Class B, 308 cubic yards, place measurement, rock and boulders. Class A, at $3.47 per cubic yard. Class B, 92 cents.
Amount passed for payment, $2,556.21; inspection, $224.39; total expenditure, $2,780.60.
Work commenced: April 16; completed, April 20, 1915.

Sault Ste. Marie, Ont.—(Main channel and A. C. Railway Slip.) Under contract No. 8960 with Soo Dredging & Construction Co. Dredge *No. 3* and *Derrick*.
Quantity removed: 1,080 Class A: 447 Class B, cubic yards place measurement at $3.47 per yard Class A. 92 cents per cubic yard Class B, rock, silt, mud and boulders.
Amount passed for payment: $4,933.38; inspection and surveys, $5,115.77; total expenditure, $10,049.15.
Work commenced: April 16; completed, November 20, 1915.
Object of work: Completion of work begun under this contract in 1912.

Sault Ste. Marie, Ont.—37—(Paper Company Slip.) Under agreement with Algoma Dredging Co. Dredge *Continental* and *Derrick*.
Quantity removed: 79 Class A cubic yards place measurement at $3.50 per cubic yard. 8,636 Class B cubic yards place measurement at 48½ cents per cubic yard, sand, boulders and rock.
Amount passed for payment: $4,464.96; inspection, $619.75; total expenditure, $5,084.71.
Work commenced: June 28; completed, October 20, 1915.
Object of work: To clean out basin at wharf of Lake Superior Paper Co.

Sault Ste. Marie, Ont.—45—(Imperial Oil Co. Dock, Downey's Slip and Ferry Slip.) Under agreement with Soo Dredging & Construction Co. Hire of derrick at $75 per day.
Amount passed for payment: $1,117; and $300.
Work commenced: August 1; completed, October 14, 1915.
Object of work: Removal of boulders in front of Oil Co. Dock.

St. John Harbour, N.B.—See Beacon Bar and Sand Point.

Smith's Cove, N.S.—8—Under District Engineer Bernasconi, day labour.
Amount passed for payment, $647.61.

Shanty Bay, Ont.—28—Under agreement with Conroy Bros. Dredge *Little Lake*.
Quantity removed: 1,645·7 cubic yards, place measurement, at 50 cents per yard. Class B, clay, gravel and boulders.
Amount passed for payment, $822.85; inspection, $41.40; total expenditure, $864.25.
Work commenced: May 7; completed, May 25, 1915.
Object of work: Dredging basin on east and west sides of wharf to 8½ feet.

Sand Point, St. John, N.B., Berths 4, 5, 7 and 14.—36—Under agreement with J. A. Gregory. Dredge *J. A. Gregory*.
Quantity removed: 8,780·5 cubic yards, scow measurement, at 50 cents per yard. Class B, mud.
Amount passed for payment, $4,390.25; inspection, $427.10; total expenditure, $4,817.35.
Work commenced: October 6; completed, December 10, 1915.
Object of work: Cleaning out upper end of Sand Point.

Trenton, Ont.—Under agreement with R. Weddell Co. Sweeping channels.
Amount passed for payment: Sweeping channel, $700; at Guthard dock, $390; Gill & Fortune dock, $1,440; cold storage dock, $520; total, $3,050.

The Range, N.B.—3—Under agreement with St. John River Dredging & Construction Co. Dredge *Tantawanta*.
Quantity removed: 1,200·4 cubic yards, place measurement, at 40 cents per cubic yard. Class B, clay and rocks.
Amount passed for payment, $480.16; inspection, $18; total expenditure, $498.16.

Work commenced: June 22; completed, June 25, 1915.
Object of work: To dredge channel and strip along shore line east of Department high water wharf to enable scows to be loaded direct from mill, and to facilitate handling logs in front of mill run.

Toronto, Ont. (Eastern Gap).—42—Under contract No. 10731, with R. Weddell & Co. Dredges *IXL* and *Togo.*
Quantity removed: 122,350 cubic yards, scow measurement, at 11 cents per yard. Class, sand and mud.
Amount passed for payment, $13,458.50; inspection, $590.90; total expenditure, $14,049.40.
Work commenced: July 15; suspended for season, November 9, 1915.
Object of work: To dredge entrance channel and channel between piers.

Upper Jemseg, N.B.—3—Under agreement with New Brunswick Construction Co. Dredge *Tantawanta.*
Quantity removed: 5,761·8 cubic yards, scow measurement, at 30 cents per cubic yard. Class B, clay, mud and gravel.
Amount passed for payment, $1,728.54; inspection, $24; total expenditure, $1,752.54.
Work commenced: June 11; completed, June 17, 1915.
Object of work: To allow vessels to get to Government high and low water wharves by cleaning up basin in front of and up and down stream of wharf.

Windsor, N.S.—30—Under agreement with W. W. Shaw. Hand dredging.
Quantity removed: 3,838·5 cubic yards, place measurement, at 54 cents per cubic yard. Class B, mud.
Amount passed for payment, $2,085.29; inspection, $202.62; total expenditure, $2,287.91.
Work commenced: May 26; completed, August 12, 1915.
Object of work: Dredging of mud from front of Government wharf.

Yarmouth, N.S., Gateway Fish Co. Wharf.—Under agreement with Maritime Dredging and Construction Co. Dredge *Beacon Bar.*
Quantity removed: 14,907 cubic yards, scow measurement, at 30 cents and 35 cents per cubic yard. Class B, mud, 4,000 cubic yards at 35 cents: 10,907 cubic yards at 30 cents, overhaul, $149.07.
Amount passed for payment, $4,821.17; inspection, $294.60; total expenditure, $5,115.77.
Work commenced: July 2; completed, September 1, 1915.
Object of work: Dredging of basin and approaches thereto between the wharves of the Gateway Fish Co. and H. Amiro.

Yarmouth Bar, N.S.—Under agreement with Maritime Dredging & Construction Co. Dredge *Beacon Bar.*
Quantity removed: 16,002·2 cubic yards, scow measurement, at 30 cents per cubic yard. Class, mud and sand.
Amount passed for payment, $4,800.66; inspection, $123.55; total expenditure, $4,923.21.
Work commenced: July 14; completed, August 17, 1915.

Sydenham River, Ont.—Under District Engineer Craig, day labour, $300.

Lower St. Louis, N.B.—Under District Engineer Stead, day labour, $995.08.

Boneshaw.—Under District Engineer Hyndman, day labour, $167.50.

St. Charles or Big Aldouane River, N.B.—Under District Engineer Stead, day labour, $1,619.99.

Shediac Bay, N.B.—Under District Engineer Stead, day labour, $992.73.

St. Eloi, Que.—Under District Engineer Tremblay, day labour, $1,009.42.

St. John River and Tributaries, N.B.—Under District Engineer Scammell, day labour, $1,883.

Cocagne, N.B.—Under District Engineer Stead, day labour, $1,153.10.

River Bois Blanc, Que.—Under District Engineer Tourigny, day labour, $2,236.62.

Hamilton, Ont.—Under agreement with D. G. Stewart. Removal of old piles and cribs at foot of Hewson street. Amount passed for payment, $700.

Isle Verte, Que.—Under District Engineer Tremblay, day labour, $991.95.

Stone River, B.C.—Under District Engineer Worsfold, day labour, $2,286.04.

Grand Ruisseau, Que.—Under District Engineer Bertrand, day labour, $24.40.

Mossy River, Man. (Winnipegosis).—Under District Engineer Stevens, day labour, $613.27.

DEPARTMENTAL BUCKET-LADDER DREDGES, 1916.

Name.	Official Registry Number.	Tonnage.	When built.	Where built.	Builder.	Cost equipped.	Present estimated value.	Hull.					Main Engines.			Propelling Engines.		
								Material.	Length O.A.	Beam O.A.	Working draft.	Draft loaded.	Type.	Size.	Maker.	Number.	Type.	Size.
						$	$		′ ″	′ ″	′ ″	′ ″						
P.W.D. No. 1...	134,184	G. 1605	1905	Sorel, Que	Dept. Pub. Wks.	612,784	600,000	Steel.	215	42 0	11 0 F 15 0 A	17 0	Triple expansion	14″, 22″, & 36″ x 22″	Polson Iron Works.	2	Triple expansion.	14″, 22″ & 36″ x 22″.
P.W.D. No. 2...	71,716	R 290	1875	Renfrew, Scotland	Wm. Simons & Co., Ltd.	100,000	30,000	Iron..	182	32 0	8 0 F 9 6 F	15 0	Marino.....	28″ x 21″...	Wm. Simons & Co., Ltd.	1	Fore and aft	28″ x 21″.
P.W.D. No. 7...	130,249	(G232-01) N 46-69	1872	Renfrew, Scotland	Wm. Simons & Co., Ltd.	110,000	60,000	Iron..	132	20 0	7 6	....	Single, Low pressure.	22″ x 21″..	Wm. Simons & Co., Ltd.	2	Single, Low pressure.	22″ x 24″.
P.W.D. No. 306	129,529	(G747-66 (R434-75)	1910	Renfrew, Scotland	Wm. Simons & Co., Ltd.	210,000	200,000	Steel.	210	36 6	11 0	...	Fore and aft compound.	18″ & 36″ x 24″.	Wm. Simons & Co., Ltd.	2	Fore and aft compound.	18″ 36″ x 24″.

Name.	Boilers.						Fuel.		Working depth.		Length of ladder.	Buckets.		Hoppers.		Anchor cables.		Anchor cable engines.		Condenser.		No. of crew.	Average capacity per day.	Cu. Yds. per hour.						
	Number.	Type.	Diameter.	Length.	Horse power.	Fuel consumption per day of 10 hours.	Capacity.	Kind.	Maximum.	Minimum.		Number.	Size.	Number.	Capacity of each.	Number.	Size.	Size.	Type.	Size.	Type.			Clay.	Silt.	Sand.	Gravel.	Clay and silt.	Sand and gravel.	Boulder.
			′ ″	′ ″					′	″	′ ″				Cu. yds								Cu. yds							
P.W.D. No. 1...	2	Cylindrical.	13 0	11 6	....	4 tons..	130 tons...	Soft coal....	52	14	108 0	39	1 c.y.	2	500	6	1⅞″ & 1¼″	2-10″ x 20″	Double.	3′ 0″ x 8′ 5″	Surface.	27	7000	1000	1000	....	1000	1000	[1]400	80
P.W.D. No. 2...	1	Scotch Marine.	14 7	10 0	..	4 tons...	54 tons....	Sydney coal	28	11½	65 0	32	½ c.y.	..	....	2	1¹/₁₆...	7″x12″.	Double.	3′0″x6′ 0″	Surface.	17	1200	100	150	200	200	130	200	..
P.W.D. No. 7..	1	Scotch.....	10 0	9 0	..	3 tons...	70 tons....	Soft coal....	20	8	50 0	25	4 c.ft.	1	90	12	⅝″, ¾″, ⅞″	2-7″ x 10″	Double.	[3]604 tubes	Surface.	16	1200	200	200	100	200	200	100	..
P.W.D. No. 306	[2]1	Scotch Marine....	12 9	12 6	...	16 bbls.	200 bbls...	Crude oil..	50	15	130 0	46	154c ft	..	....	6	1⅛″, 1⅜″, 1½″, 1⅝″	10x12″ 10x10″	Simplo.	8′ 0″..	Surface	24	3000	....	150	300	300	100	[4]200	..

[1]Includes boulders. [2]And donkey. [3]¾″ tubes 6′ 3½″ long. [4]Includes boulders.

DEPARTMENTAL HYDRAULIC DREDGES, 1916.

Name.	Official Registry Number.	Tonnage.	When built.	Where built.	Builder.	Cost equipped.	Present estimated value.	Hull. Material.	Hull. Length O.A.	Hull. Beam O.A.	Hull. Working draft.	Hull. Draft loaded.	Pumping Engines. Type.	Pumping Engines. Size.	Pumping Engines. Horse power.
						$			' "	' "	' "	' "			
P.W.D. No. 3..	130,642	G. 469 R. 319	1900	Rotterdam.....	Lohnis & Co.....	$45,000	45,000	Steel.....	162 0	29 9	10 0	13 0	Triple expansion	11 1/16, 16 7/32", 27 1/16 x 18".	300
P.W.D. No. 5..	134,187	G. 795	1906	Toronto.....	Polson Iron Works..	183,770	183,000	Steel.....	131 6	52 0	6 6	.....	Triple expansion	14", 22 x 36" x 22" ...	600
P.W.D. No. 12..	133,759	434·84	1913	St. John, N.B.....	Phoenix Foundry & Mach. Co.	82,500	82,500	Steel.....	110 0	32 0	3 10	.....	Triple expansion	8 1/2", 13 1/2 & 22" x 16"...	200
P.W.D. No. 201	.....	G.442.49	1906	Selkirk, Man.....	Polson Iron Works..	30,000	18,000	Wood.....	130 0	33 0	5 0	.....	Compound.....	10" & 20" x 12".....	....
P.W.D. No. 303	.....	4,023	1907	Danzig, Germany...	Shichan & Co.....	250,000	210,000	Steel.....	200 0	36 0	11 0 A. 5 0 F	13 0 A. 15 0 F.	Compound.....	2-13 1/2" & 25" x 15"....	230
P.W.D. No. 305	.....	G591·63 R319 38	1901	New Westminster, B.C.	Polson Iron Works..	130,172	100,000	Steel & wood.	146 6	33 0	5 8	.....	Triple expansion	13-13 1/2", 22" & 36"x21"	500

Name.	Propelling Engines. Type.	Propelling Engines. Size.	Propelling Engines. Horse power.	Boilers. Number.	Boilers. Type.	Boilers. Diameter.	Boilers. Length.	Boilers. Horse power.	Boilers. Fuel consumption per day of 10 hours.	Fuel. Capacity.	Fuel. Kind.	Size of suction.	Discharge Pipe. Size.	Discharge Pipe. Length.	Hopper. Number.	Hopper. Capacity, Cu. yds.	Working Depth. Maximum.	Working Depth. Minimum.	Average capacity, Cu. Yds per 10 hours.	No. of crew.	Cu. Yds. per Hour. Sand.	Silt.	Clay.	Gravel.	Sand and gravel.	Sand and silt.	Sand, gravel, and boulders.
						' "	' "					"	"	'			'	' "									
P.W.D. No. 3..	[1]	.....	....	1	Scotch Marine	12 6	10 0	....	1½ tons..	27 tons....	Soft coal .	24	22	15	2	483	45	10	3415	17	700	600	300	900	483	700	....
P.W.D. No. 5...	None	.....	....	2	Scotch Marine	12 0	12 0	....	8 tons...	200 tons...	Soft coal .	24	24	2000	....	....	35	6	5000	14	350	400	200	270	300	400	....
P.W.D No. 12..	None	.....	....	[2]1	Scotch Marine	9 11	12 0	....	4 tons...	20 tons...	Soft coal.	15	15	900	....	....	18	3	1500	13	300	..	....	....	....	....	....
P.W.D. No. 201	Simple.....	14" x 60".....	....	2	Scotch.....	7 0	9 0	....	2½ tons..	15 tons....	Soft coal..	10	12	200	....	....	12	4 6	....	8	..	1	....	....	....	....	....
P.W.D. No. 303	Compound....	2-13½" & 25" x 15".	230	2	Cylindrical...	12 0	10 8	....	40 bbls.	740 bbls..	Oil.....	[4]16	24	....	6	800	45	16 0	10000	20	1600	1400	500	....	800	1500	....
P.W.D. No. 305	Horizontal....	16" x 72".....	260	[5]2	Heine water tube.	[6]	18 9	....	40 bbls.	300 bbls..	Oil.....	20	20	4000	....	....	40	8	5000	21	500	800	400	400	450	650	....

[1]Same engines for pumping and propelling. [2]And donkey boiler. [3]725 cu. yds. per day. [4]2-suction pipes. [5]8' 3" W. x 13' 0" H.

DEPARTMENTAL DIPPER DREDGES, 1916.

Name.	Official Registry Number.	Tonnage.	When built.	Where built.	Builder.	Cost equipped.	Present Estimated Value.	Hull. Material.	Hull. Length O.A.	Hull. Beam O.A.	Hull. Working Draft.	Fuel Capacity.	Kind of Fuel.	Main Engines. Type.	Main Engines. Size.
						$	$		′ ″	′ ″	′ ″				
P.W.D. No. 6	.....	.....	1895	Levis, Que.....	Carrier Laine Co....	75,000	50,000	Steel.	90 0	37 10	5 6 F. 8 0 A.	28 tons....	Soft coal.....	*Compound	11½″& 24″x 14″.
P.W.D. No. 9	130,346	368·37	1906	Toronto, Ont.....	Bertram Engine Works.	49,350	55,000	Steel.....	90 0	36 0	7 0	31 tons....	Soft coal.....	Simple.....	(2) 10″x 14″
P.W.D. No. 10.	130,347	244·29	1871	Summerside, P.E.I....	John McKinnon....	*22,000	9,500	Wood.....	81 0	27 0	6 8	10 tons....	Soft coal.....	Simple.....	16″ 16″.
P.W.D. No. 11.	130,348	192·12	1911	Pugwash, N.S.....	Burns & Waters, Hull, Q.	24,000	30,000	Wood.....	64 7	24 9	4 8	10 tons....	Soft coal.....	†Simple.....	(2) 8½″x 12″..
P.W.D. No. 13.	133,950	401	1913	Ottawa, Ont.	P. W. D.....	89,900	89,900	Wood.....	99 2	41 4	7 0	45 tons....	Soft coal.....	*Simple.....	(2) 12′x14″....
P.W.D. No. 4	.....	.....	1911	Ottawa, Ont.....	P. W. D.....	83,000	80,000	Wood.....	90 0	34 0	5 6	22 tons....	Soft coal.....	Simple.....	(2) 10″x14″....
P.W.D. No. 101	.....	.....	1904	St. Louis de Gonzague, Q.	P. W. D.....	14,360	12,000	Wood.....	54 0	20 0	...	.....	Soft coal.....	Simple,....	8″x .....
P.W.D. No. 102	134,537	104	1906	Buckingham, Que. ..	P. W. D..	21,600	18,000	Wood. ..	66 6	22 0	2 6	0½ tons....	Soft coal.	Simple.....	(2) 8″x12″. ..
P.W.D No. 103	134,538	104	1909	Ottawa, Ont. ...	P. W. D. .	23,000	18,000	Wood.....	61 0	24 0	2 6	6 tons. ..	Soft coal.....	Simple. ..	(2) 8″x12″.....
‡P.W.D. No. 105	117,173	136·15	1902	Bay City, Mich.....	Robt. Gordon Stewart.	20,000	8,000	Wood.	76 0	24 0	9 0	20 tons. .	Soft coal.....	‡Simple.....	(2) 12″x16″.....
P.W.D. No. 108	.	.. .		Deschenes, Que. ..	Mr. Askwith..	6,500	6,000	Wood .	51 0	20 0	2 0	5 tons.....	Soft coal	Simple.....	7″x14″.....
P.W.D. No. 109	131,123	766·2	1906	Duluth, Wis.....	Superior Dredge Co.	. ...	200,000	Wood...	133 4	44 0	9 0	100 tons...	Soft coal.....	Simple.....	(2) 18″x24″....
P.W.D. No. 110	131,128	458·28	1896	Kingston, Ont.	Michael Connolly..		75,000	Steel..... ...	109 0	42 0	8 0	35 tons.. .	Soft coal. ..	*Compound	12″ & 24″x14″ .
P.W.D. No. 111	.....	148·3	1905	Roberval, Que.. ..	Johnny Poitras.....	7,600	25,000	Wood..... ...	75 0	28 1	6 0	... .	Wood or coal.	Simple.	(2) 9½″x10″....
P.W.D. No. 112	...	..	1905	Sturgeon Falls, Ont.	P. W. D.....	21,642	18,000	Wood . ..	75 4	28 6	11 0	20 tons....	Soft coal.....	Simple.....	12½″x15″... ..
P.W.D. No. 113	.	..	1889	Ottawa, Ont... ..	P. W. D . ..	25,000	5,000	Wood... ...	75 0	29 6	10 0	12 tons....	Soft coal.....	Simple.. . .	13″x15″....
P.W.D. No. 114	133,941	G138·38 R102·96	1900	Ottawa, Ont..	P. W. D.. ..	24,500	18,000	Wood	83 0	28 5	8 6	11 tons..	Soft coal.....	Simple.....	(2) 14″x16″.
P.W.D. No. 115	134,542	250	1906	Ottawa, Ont. ..	P. W. D.... ..	81,844	70,000	Wood . .	95 0	37 0	13 0	27 tons....	Soft coal.....	*Simple. ...	(2) 14″x16″.
P.W.D. No. 116	131,129	375·28	1902	Sorel, Que.	P. W. D.... .	75,000	70,000	Wood . ..	92 0	35 0	11 0	35 tons...	Soft coal.....	*Simple.....	(2) 4″x16″.
P.W.D. No. 117	112,186	570·49	1908	Toronto, Ont.....	Polson Iron Works .	91,700	80,000	Steel & wood.	106 9	38 0	8 0	75 tons....	Soft coal.....	Simple.....	12½ 16″x18″.
P.W.D. No. 118	....	100	1903	Temiskaming Station, Que.	P. W. D..... ..	19,600	15,000	Wood	67 0	25 6	5 0	5 tons.....	Soft coal. .	Simple.....	.″x10″.
P.W.D. No. 119	... .	.. ..	1903	Ottawa, Ont.	P. W. D.... ..	23,250	17,000	Wood.....	70 0	22 0	4 6	14 tons...	Soft coal.....	Simple.....	(2) 7″x14″.
P.W.D. No. 120	133,938	50·87	1899	Ottawa, Ont.	P. W. D... .. .	50,000	30,000	Wood.....	87 0	33 6	8 6	18 tons....	Soft coal....	Simple.....	12″x14″. .
P.W.D. No. 121	134,541	104	1906	Ottawa, Ont.	P. W. D..... ...	21,020	18,000	Wood..	61 0	24 0	2 0	6 tons....	Soft coal	Simple.....	(2) 8½″x12″..
P.W.D. No. 122	...		1898	Grandes Piles, Que....	P. W. D..... ..	7,500	4,000	Wood	70 0	23 0	3 0	5 tons.....	Soft coal.....	Simple.....	(2) 10″x12″.....
P.W.D. No. 123	133,934	403·73	1913	Ottawa, Ont....	P. W. D..... ..	80,238	80,000	Wood.....	95 0	34 0	7 0	60 tons....	Soft coal.....	Simple.....	(2) 12″x14″.....
P.W.D. No. 204	....	250	1911	Selkirk, Man.....	P. W. D..... ..	15,600	10,000	Wood.....	82 0	34 0	4 6	20 tons....	Soft coal.....	Simple.....	(2) 8″x10″....
P.W.D. No. 205	122,280	350	1910	Selkirk, Man.....	P. W. D..... ..	40,000	30,000	Wood... .. .	80 0	38 0	7 0	20 tons....	Soft coal...	Simple.....	(2) 10″x14″....
P.W.D. No. 208	....	150	1914	Selkirk, Man.....	P. W. D.....	14,000	12,000	Wood.....	70 0	27 0	5 6	1½ cords ..	Wood	Double.....	8 x12 .....
P.W.D. No. 301	130,896	538·16	1908	New Westminster, B.C	Polson Iron Works.	131,216	103,500	Steel..... .	108 0	40 0	8 0	340 bbls .	Oil . .	Simple.....	(2) 14″x16″. ..
P.W.D. No. 307	100,631	138·67	1889	Victoria, B.C.	W. Turpel & Son....	24,000	15,000	Wood and iron	95 0	31 0	6 0	45 tons..	Soft coal.... .	*Simple.....	(2) 13″x13″.....
P.W.D. No. 210	. ..	109·49	1915	Winnipegosis, Man ...	P. W. D	12,600	7,000	Wood	59 0	23 0	2 0	6 tons ...	Coal . ..	Double Cyl.	10″x12″.....

* Surface condensing. † Iron strapped. ‡ Dismantled.

Name.	Boilers.							Spuds.		Working Depth.		Dippers.	Dipper Arm.		Length of Boom.	Main Hoist Line.			No. of crew one shift.	Province where employed.
	Number	Type.	Dia.	Length.	Press. Allowed	Horse-Power.	Fuel consumpt'n per d. of 10 h	Number	Size.	Material.	Max.	Min.	Number	Size.	Size.	Material.		Size.	Material.	Length.		
			′ ″	′ ″	Lb.						′ ″	′ ″		C.yd.			′ ″	″		′		
P.W.D. No. 6	1	Scotch	9 0	10 0	120	47	1½ tons	3	(2) 36″x36x50′ (1) 24″x24″x60′	Fir	31 0	9 0	2	(1) 5 (1) 3½	(2) 22″x20″x51′		45 0	1⅛	Wire rope	325	14	Mar. Prov.
P.W.D. No. 9	1	Scotch	9 2	10 0	145	52½	2 tons	2	24″x24″x50′	†Fir	26 0	8 0	2	2½	16″x16″x45′	*Oak	47 0	1⅛	Wire rope	250	12	Mar. Prov.
P.W.D. No. 10	1	Locomotive	5 6	10 2	50	26	1 ton	3	(2) 14″x16″x16′ (1) 14″x16″x42′	Hard pine with iron plates.	22 0	9 0	2	1⅓	14″x13½″x37′ 9″ 14x10½x33′ 9″	Oak	31 0	1	1′wirerope	225	11	Mar. Prov.
P.W.D. No. 11	1	Scotch	6 6	8 0	140	30	1000 lbs.	3	(2) 15″x15″x38″ (1) 15″x15″x35′	Rock Maple Oak	17 0	5 0	1	1	9″x9″	*Oak	29 6	¾	Wire rope	210	9	Mar. Prov.
P.W.D. No. 13	1	Scotch	9 0	10	140		2½ tons	2 1	30″x30″x41′ 4″ 24″x24″x44′ 6″	Fir	20 0	8 0	2	(1) 3½ 1) 2½	14½″x17½″x39′	Oak & st'l	40 0	1⅞	Wire rope	350	12	Mar. Prov.
P.W.D. No. 4	1	Scotch	9 0	10 0	140	53	2½ tons	3	(2) 24″x24″x52′ (1) 18″x20″x52′	†Fir	22 0	8 0	1	2½	16″x17″x46′	*Oak	44 0	1¼	Wire rope	175	12	Ont. & Que.
P.W.D. No. 101	1	Locomotive	3 6	10 6	100	35	1½ tons	3	12″x12″x18′	Pine	8 0	6 0	2	¾		Oak	22 0	¾	Chain	140	6	Ont. & Que.
P.W.D. No. 102	1	Locomotive	4 4	15 0	118	37	1½ tons	3	12″x12″	Oak	16 0	3 0	1	1	8½″x10″x26′	eOak	29 3	⅞	Chain	200	8	Ont. & Que.
P.W.D. No. 103	1	Locomotive	4 4	15 0	125	37	1½ tons	3	12″x12″	Oak	16 0	6 0	1	1	8⅝″x10″x26′		30 0	¾	Chain	200	8	Ont. & Que.
mP.W.D. No. 105	1	Fitzgibbon d	6 0	10 8	85	20	1½ tons	3	(2) 18″x18″x42′ (1) 14½″x15½″x42′)	Oak	20 0	9 0	1	2½	15½″x20½″x36′	Oak & st'l	35 6	1¼	Wire rope	250	7	Ont. & Que.
P.W.D. No. 108	1	Scotch	4 3	8 0	85		1½ tons	3	12″x12″x33′	Oak	15 0	6 0	1	1	12″x12″x32′	Onk	26 0	1	Wire rope	152½	5	Ont. & Que.
P.W.D. No. 109	1	Scotch	10 6	12 6	135		4 tons	3	(2) 40″x40″x55′ (1) 30″x30″x60′	Fir	27 0	13 6	2	(1) 10 (1) 4	26½″x31¼″x55′	eSteel	54 0	2½	Wire rope	225	18	Ont. & Que.
P.W.D. No. 110	1	Scotch	10 0	10 6	120	120	1½ tons	4	(2) 36″x36″x (2) 24″x24″x	Fir	55 0	15 6	2	5	(1) 20″x23″x84′ (1) 20″x21″x64′	fOak	41 3	1⅝	Wire rope	400	15	Ont. & Que.
P.W.D. No. 111	1	Locomotive	4 0	10 5	100	50	2½ cords	3	(2) 14″x14″x36′ (1) 10″x10″x28′	Oak	17 0	6 0	1	1	13″x13½″x34′	Oak	40 0	1	Chain	200	8	Ont. & Que.
P.W.D. No. 112	1	Fitzgibbon h	4 7	8 7	110	48	1½ tons	2	20″x20″x42′	Oak	19 0	11 0	1	2¼	13½″x14½″x	gOak	36 0	1⅛	Chain	172	11	Ont. & Que.
mP.W.D. No. 113	1	Locomotive	4 6	12 3	80		2 tons	3	(2) 16″x16″x39′ (1) 13″x14″x42′	Oak	20 0	10 0	1	2	15½″x16½″x36′	Oak & ir'n	28 6	1⅜	Chain	187	11	Ont. & Que.
P.W.D. No. 114	1	Locomotive	4 2½	16 2½	100		1½ tons	3	(2) 17″x18″x (1) 12″x13″x	Oak	22 6	10 0	2	(1) 2 (1) 1	16″x17⅜″x38′	Oak & ir'n	38 0	1½	Chain	195	8	Ont. & Que.
P.W.D. No. 115	1	Scotch	9 2	8 6	130	85	3 tons	3	(2) 30″x30″x (1) 20″x21″x	Fir	35 0	13 0	2	(1) 5 (1) 3	18″x x55′	Fir	45 0	2	Wire rope	225	13	Ont. & Que.
P.W.D. No. 116	1	Scotch	9 6	10 0	140			3	(2) 30″x30″x (1) 20″x24″x	Fir	30 0	14 0	1	5	19″x19″x49′ 4″	jOak	45 0	2⅛	Wire rope	205	15	Ont. & Que.
P.W.D. No. 117	1	Scotch	10 4	10 10	145		3½ tons	3	(2) 36″x36″x66′ (1) 24″x25″x66′	Steel plates	45 0	16 0	2	(1) 8 (1) 5	24″x24″x66′	Steel & wood	50 0	2⅜	Wire rope	230	15	Ont. & Que.
P.W.D. No. 118	1	Locomotive	4 2	16 6	115		1 ton	3	14″x14″x	Oak	19 0	8 0	1	1½	13″x13″x	Oak	34 0	1	Chain	175	12	Ont. & Que.
P.W.D. No. 119	1	Locomotive	4 6	8 0	135	40	1 ton	3	13½″x13½″x35′	Oak	15 0	8 0	1	1½	12″x13″x36′	Oak & st'l	30 0	1	Wire rope	150	8	Ont. & Que.
P.W.D. No. 120	1	Locomotive	4 2	15 5	125		1½ tons	2 1	24″x24″x40′ 15½″x16″x45′	Wood	20 0	9 0	1	2	15½″x16″x28′	Wood & iron	29 6	1¼	Wire rope	250	8	Ont. & Que.
P.W.D. No. 121	1	Locomotive	4 4	15 0	125	37	1½ tons	3	″x12″x	Oak	16 0	6 0	2	(1) 1 (1) ¾	8⅝″x10″x26′	Oak & st'l	30 0	⅞	Chain	200	8	Ont. & Que.
P.W.D. No. 122	1	Locomotive	4 0	15 3	125		1 ton	3	(2) 12″x12″x32′ (1) 10″x10″x32′	Pitch pine	14 0	12 0	1	¾	10″x10″x32′	Grey Birch	40 0	¾	Chain	250	8	Ont. & Que.
P.W.D. No. 123	1	Scotch	8 6	9 6	140	30	2 tons	3	30″x30″x	Fir	22 0	8 0	2	(1) 3½ (1) 2½	15½″x17″x	Oak & st'l	39 0	1⅛	Wire rope	350	10	Ont. & Que.
P.W.D. No. 204	1	Locomotive	4 0	16 0	130		1½ tons	3	16″x16″x35′	Fir	15 0	4 6	1	1½	15″x18″x40′	Oak	40 0	1	Wire rope	210	8	Man.
P.W.D. No. 205	1	Scotch	10 0	10 0	145		1½ tons	3	24″x24″x45′	Fir	20 0	7 0	1	3	16″x18″x50′	Wood & st	40 0	1¾	Wire rope	178	9	Man.
P.W.D. No. 208	1	Scotch	6 6	8 6	150		1½ cords	3	12″x12″x30′	Wood	13 0	6 0	1	1	12″x14″x28′	Oak	40 0	⅞	Wire rope	200	8	Man.

DEPARTMENTAL DIPPER DREDGES, 1916—*Concluded.*

Name.	Boilers.							Spuds.			Working Depth.		Dippers.		Dipper Arm.		Length of Boom.	Main Hoist Line.			No. of crew one shift.	Province where employed.
	Number	Type.	Dia.	Length.	Press. Allowed.	Horse-Power.	Fuel consumpt'n per d. of 10 h.	Number	Size.	Material.	Max.	Min.	Number	Size.	Size.	Material.		Size.	Material	Length.		
			′ ″	′ ″	lb.						′ ″	′ ″		C.yd			′ ″	″		′		
P.W.D. No. 301.	1	Scotch*k*	10 0	10 0	150	80	15 bbls.	3	(2) 36″x36″x66′ (1) 30″x30″x66′	*l*Fir	40 0	15 0	3	(2) 5 (1) 3	25½″x26″x62½′	Steel & wood.	60 0	2½	Wire rope.	230	14	B. C.
P.W.D. No. 307	1	Dry Back.	7 0	9 6	125	70	1½ tons.	3	(2) 22″x23″x60′ (1) 16″x18″x60′	Wood & iron.	32 0	17 0	1	3 2¼	18″x20″x50′	Wood & iron.	50 0	1⅛	Wire rope.	280	12	B. C.
P.W.D. No. 210		Locomotive	3 6	16 0	125	...	1500 lbs.	3	(2) 12″x12″x24′ (1) 10″x10″x28′	Oak	12 0	8 0	1	1¼	8″x12″x26′	Wood & iron.	30 0	¾	Chain	200	....	Man.

*Iron bound. †Iron strapped. *a*Faced with steel plates. *b*With iron plating. *c*With iron sheeting. *d*Boiler 8 ft. high. *e*With wood filler.
*f*Covered by steel plate. *g*Ironed off. *h*Boiler 7′ 4″ high. *i*Wide. 6′ 1″ H. *j*Steel plate covering. *k*Also 1 Donkey boiler 3′x6′. *l*And Blue Gum wood. *m*Dismantled.

DEPARTMENTAL CLAM-SHELL AND ORANGE-PEEL DREDGES, 1916.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost equipped.	Present estimated value.	Hull. Material.	Hull. Length O. A.	Hull. Beam O. A.	Hull. Working Draft.	Fuel Capacity.	Kind of Fuel.	Main Engines. Number.	Main Engines. Type.	Main Engines. Size.	Boilers. Number.	Boilers. Type.	Boilers. Diameter.	Boilers. Length.	Boilers. Pressure Allowed.	Boilers. Horse Power.	Fuel consumption per day of 10 hrs.
						$	$		′ ″	′ ″	′ ″								′ ″	′ ″	Lb.		
P.W.D. No. 11	.....	.....	.....	.....	.....	7,000	7,000	Wood	60 0	25 0	2 8	3 tons...	Soft coal..	1	D.C. D.D.	7″x12″	1	Vertical	3 2	7 5	100	....	1 ton.
P.W.D. No. 106	.....	89·42	1911	Sorel, Que.....	P.W.D.....	16,838	16,000	Wood	55 0	24 0	6 0	3 tons...	Soft coal..	2	Simple.	9″x12″...	1	Upright	4 6	7 0	105	45	1 ton.
P.W.D. No. 202	.....	.....	1911	Selkirk, Man.....	P.W.D.....	19,077	14,000	Wood	78 6	33 0	3 0	20 tons.	Soft coal..	2	Simple.	9″x12″...	1	Scotch..	7 0	9 0	150	....	1 ton.
*P.W.D. No. 203	.....	.....	1909	Fork River, Man.	P.W.D.....	4,000	2,000	Wood	60 0	32 0	2 0	½ cords.	Wood.....	1	Simple.	8″x12″...	1	Vertical	3 6	8 0	100	....	1 cord.
*P.W.D. No. 206	.....	78·04	1907	Athabasca Landing, Alta.	P.W.D.....	9,500	1,500	Wood	62 5	25 2	1 6	2½ "	Wood.....	2	Simple.	7″x10″...	1	Upright	3 3	7 11	150	20	[1]1½ cords.
†P.W.D. No. 210	.....	.....	[2]1904	Winnipegosis, Man	P.W.D.....	.....	2,000	Wood	60 0	20 0	3 0	2 cords.	Wood.....	1	Simple.	8″x12″...	1	Vertical	3 6	8 0	100	....	½ cord.
P.W.D. No. 209	.....	.....	.....	.....	.....	.....	.....	Wood	40 9	20 0	...	.....	.....	1	Simple[4]	7″x10″..	1	Upright	...	...	...	...	...
P.W.D. No. 302	.....	.....	1911	Nelson, B.C.....	Thos. Cunningham.	12,000	14,000	Wood	68 7	31 3	2 0	10 tons..	Soft coal..	2	Simple.	8½″x10″..	1	Vertical	3 7	7 11	150	23	1500 lbs.
P.W.D. No. 301	.....	39	1908	Penticton, B.C...	P.W.D.....	6,075	4,960	Wood	53 0	22 0	1 6	3 cords	Wood.....	2	Simple.	5½″x8″...	1	Vertical	2 9	6 1	120	14	½ cord.
P.W.D. No. 309	.....	64	1907	Kamloops, B.C..	P.W.D.....	7,500	4,150	Wood	57 0	27 0	1 6	10 cords	Wood . ..	2	Simple.	5½″x8″...	1	Vertical	2 9	6 0	115	16	½ cord.
P.W.D. No. 313	134,075	208·31	1913	North Vancouver, B.C.	Wallace Shipyards, Ltd.	18,000	15,400	Wood	86 0	37 8	2 6	20 tons..	Soft coal .	2	Simple	8″x10″,..	1	Vertical	3 6	8 0	130	30	¾ ton.
P.W.D No. 311	.....	.....	1912	Nakusp, B.C.....	S. Mills.....	18,000	15,000	Wood	71 6	34 6	2 6	10 tons..	Soft coal..	2	Simple.	10″x12″..	1	Vertical	4 6	8 3	130	30	1 ton.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	...	.....	.....	.....	.....	.....	.....

[1]Combined dredge and pile driver. Size Leads 6″x8″x40. Weight Hammer 2,000 lbs. Distance between leads 16′. * Dismantled. † Now a "Dipper" dredge.
[2]2 ft. long. [3]Rebuilt 1910. [4]Double cylinder.

Name.	Spuds.			Boom.			Buckets.			Working Depth		Can overcast from side of dredge.	Size Hoist Cable.	Size Trip Cable.	Number of Crew.	Average Capacity.	Cubic Yards per Hour.						Province where employed.
	Number.	Size.	Material.	Length.	Size.	Material.	Number.	Kind.	Size.	Max.	Min.						Clay.	Sand.	Silt, mud.	Gravel.	Sand and Gravel.	Sand and Silt.	
				Ft.					Cu. yd	′	″	′ ″	″	″		Cu. yd.							
P.W.D. No. 14				60	10"x12"	Y. Pine	1	Orange Peel	1	40	5 0	17½ 6	3/4	3/4	5	480			32				Nova Scotia
							1	Clam shell	1														
P.W.D. No. 106	4	14"x14"	Fir	48	24"x24"	Steel	1	Orange Peel	1½	16	6 0		3/4	3/4	8	300	50						Ont. and Que.
P.W.D. No. 202	2	16"x16"x35'	Fir	40	24"x24"	Steel	1	Orange Peel	1½	15	4 0	20 0	7/8	7/8	7	600	60		40	10			Man., Sask., Alta.
3	1	12"x12"x35'	Fir	50	12"x12"	Fir	1	Orange Peel	1	15	2 6	20 0	3/4	3/4	8	250	50			25		21	Man., Sask., Alta.
4P.W.D. No. 206	3	12"x12"	Spruce	40	12"x16"	Tamarack	1	Orange Peel	1	8	Nil.	8 6	3/4	3/4	6	350	35	34	30	10	10 to 15	35	Man., Sask., Alta.
3	3	10"x10"x30'	Spruce	35	10"x10"	Fir	1	Orange Peel	1½	12	4 0	15 0	3/4	3/4	8	300							Man., Sask., Alta.
	3	12"x12"	Fir	32	10"x10"	Fir	1	Clam shell	½														Man., Sask., Alta.
P.W.D. No. 200		10"x10"x20'	Fir	32	10"x10"	Fir	1	Clam shell	½													45	B.C.
P.W.D. No. 302	3	14"x14"x40'	Wood	240	14"x14"	Wood	1	Orange Peel	1	20	2 2	25 0	1	1	9	500	20	40	45	25	35	35	B.C.
P.W.D. No. 304	2	12"x12"x32'	Fir	36	10"x12"	Fir	1	Orange Peel	1	10	2 0	26 0	3/4	3/4	6	200	15	20	20	20	20	20	B.C.
4P.W.D. No. 309	1	12"x12"x30'	Fir	48	11½x13½	Fir	1	Orange Peel	1	12	2 0	17 6	3/4	3/4	6	320	20	27	27	27	27	27	B.C.
	1	12"x12"x25-6"																					
P.W.D. No. 313	2	16"x16"x30'	Fir	40 9	18"x18"	Fir	1	Orange Peel	1½	6	0	21 0	3/4	3/4	6	250	20	30	30	20	20	30	B.C.
P.W.D. No. 311	(1	14"x14"x36'	Wood	60	14"x16"	Wood	2	(1) Orange Peel	2	30	3 0	16 3	1	1	8	900	40	90	90	60	70	90	B.C.
	(2	14"x14"x36'						(1) Clam shell		14													

[1] Hard. [2] And 60'. [3] Dismantled 1915. [4] Dismantled 1916.

DEPARTMENTAL SNAGBOATS, 1916.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value	Hull.				Fuel Capacity.	Kind of Fuel.	Average fuel consumption per day of 10 hrs.	Boilers.					Hoisting Engines.			Propelling Engines.				Buckets.			Revolutions per minute.	Speed per hour.	Length of Boom.	Height of Frame.	Number of crew.
								Material.	Length, B. P.	Beam.	Working Draft.				Number.	Type.	Diameter.	Length.	Horse Power.	Size.	Type.	Maker.	Number.	Size.	Type.	N. H. P.	Diameter of wheel.	Length.	Width.					
						$	$		'	'	''			Lb.			"	"								'	'	"	M			'	
Muskrat			1892	Golden, B.C.		7,500	3,500	Wood	84	20	1 4	10 tons	Soft coal	1,200	1	Vertical	15	44		8"x12"	Simple		[1]			15	15	10	20	5		22	7

[1]Hoisting engines used.

DEPARTMENTAL DRILL PLATFORMS, SCOWS AND DIVING SCOWS, 1916.

Platforms.

Number.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value.	Hull.					Spuds.			Compressor.		Gas Engine.		Fuel.	Remarks.
						Material.	Length.	Beam.	Depth.	Draft.	Number.	Size.	Material.	Size.	Type.	Type.	Horse Power.		
				$	$		'	'	'	''									
1	....	Victoria, B.C.	Alex. Watson	3,096	2,290	Fir	32	22	....	....	4	12"x12"x50'	Fir	.....	Steam	.....	40	.....	.....
2	1911 & 12	Victoria, B.C.	Alex. Watson	[3]3,350	2,290	Wood & iron.	32	22	....	....	4	12"x12"x50'	Fir	.....	Air	.....	..	.....	.....

Scows.

1	....	.....	.....	.....	800	Fir	66	30	4 6	2 0	2	10"x10"x50"	Fir	.....	.....	Steam	...	Coal	.....
2	....	.....	.....	6,080	6,080	Fir	86 6	29	6 6	2 6	2	12"x12"x60"	Fir	10"x12"	.....	Hor. Foos Engine	40	No. 1 Distillate or Coal Oil.	House & Mach'y installed by Victoria Mach'y. Depot in 1913

Diving.

..	1913	Victoria, B.C.	Victoria Mach. Depot Co.	177	140	Fir	18 5	10	2 6	....	..	.....	....	.....	.....	.....	..	.....	Diver's Outfit value $850.

DEPARTMENTAL LOBNITZ ROCK BREAKERS, 1916.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost equipped.	Present estimated Value.	Hull.				Fuel.			Boiler.				
								Material.	Length O. A.	Beam O. A.	Working Draft.	Capacity.	Kind.	Average consumption per day, 10 hrs.	Number.	Type.	Diameter.	Length.	Horse power.
						$	$		'	"	'						"	"	
P.W.D. Lobnitz No. 1	130,895	222	1911	Renfrew, Scotland	Lobnitz & Co	70,000	60,000	Steel	100	10 3	8	210 bbls.	Crude oil.	7½ bbls	1	Scotch.	9 0	8 6	...
P.W.D. Lobnitz No. 2	137,960	...	1911	Renfrew, Scotland	Lobnitz & Co.	61,300	60,000	Steel	100	11 0	5	30 tons.	Coal	1½ tons.	1	Scotch.	8 8	8 8	...
P.W.D. Lobnitz No. 3	133,760	G138-39 R388-79	1912	Renfrew, Scotland	Lobnitz & Co.	62,630	54,500	Steel	100	36 0	5	60 tons.	Soft coal.	2½ tons.	1	Scotch.	9 0	9 6	....

Name	Engine.		Auxiliaries.				Condenser.		Anchor Spuds.			Working Depth.		Breaker.				Number of Crew.	Where employed.	Erected by.
	Size.	Type.	Spuds.		Manœuvering.		Size.	Type.	Number.	Size.	Material.	Maximum.	Minimum.	Weight.	Position on Hull.	Minimum Drop.	Maximum Drop.			
			Number.	Size.	Number	Size.						'	'			'	'			
P.W.D. Lobnitz No. 1	2-12"x15".	Simple.	3	6"x5".	2	7"x12".	.....	Wheeler Surface	3	2'x2'x60'.	Fir.	40	8	15,000 lb.	Bow.	1	18	9	B. C.	Victoria Mach'y Depot.
P.W.D. Lobnitz No. 2	12"x15".	Simple.	1	6¼"x6".	2	7"x12".	.....	Wheeler Surface	3	2'x2'x60'.	Fir.	42	12	45,000 lb.	Bow.	3	20	9	B. C.	Morgan & Co., Vancouver.
P.W.D. Lobnitz No. 3	11"x14".	Simple.	....	...	2	7"x12".	2'2"x4'8".	Surface	....	....	.....	35	8	21 tons.	Centre.	2	20	9	Mar. Prov.	Thompson Bros.

DEPARTMENTAL STONELIFTERS, 1916

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost equipped.	Present estimated Value.	Hull. Material.	Hull. Length O.A.	Hull. Beam.	Hull. Working Draft.	Fuel. Capacity.	Fuel. Kind.	Fuel. Average consumption per day of 10 hrs.	Boiler. Number.	Boiler. Type.	Boiler. Diameter.	Boiler. Length.
						$	$		' "	' "	'						"	' "
P.W.D. Stonelifter No. 1	.....	.....	.....	.....	.....	41,779	30,000	Steel.....	107 6	34 0	4	20 tons...	Soft coal.	2 tons.....	1	Scotch..	7 2	7 8
P.W.D. Stonelifter No. 101	.....	.....	1901	Grandes Piles...	P.W.D....	1,200	2,500	Wood....	47	24 0	4	.....	.....	.....	..	.....	.....	....
P.W.D. Stonelifter No. 102	.....	.....	.....	Ottawa, Ont....	P.W.D....	3,000	1,000	Wood....	46	24 0	2	3 tons.....	Soft coal..	½ ton.....	1	Upright	2 10½	6

Name.	Hoisting Engines. Size.	Type.	Make.	Horse Power.	Condenser. Size.	Type.	Maximum Capacity.	Working Depth. Maximum.	Minimum.	Anchors. Number.	Type.	Size of Hoisting Cable.	Material of Overhead Frame.	Max. Width of Grips.	Where Employed.	Number of Crew.	Remarks.
								'	'			"		' "			
P.W.D. Stonelifter No. 1	(2) 9"x10".	Simple..	.....	.....	.....	.....	90 tons....	60	10	6	Fluke.....	1½	Steel.....	14 6	Mar. Prov....	10	
P.W.D. Stonelifter No. 101	*b*.....	.....	.....	.....	.....	.....	10 tons....	20	3	1	Hand Crane	1	Pitch Pine....	6 0	Ont. and Que.	11	*b* Hand Winch.
P.W.D. Stonelifter No. 102	*c*.....	Simple.	Beatty.	.....	.....	.....	6 tons.....	14	2	4	Hand Ratchet.....	⅞ & ⅞	Fir and Oak..	9 0	Ont. and Que.	2	*c* Double engines.

DEPARTMENTAL FLOATING PILE DRIVERS, 1916.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost equipped.	Present estimated Value.	Hull.					Fuel.		
								Material.	Length.	Beam.	Depth.	Working Draft.	Capacity.	Kind.	Average consumption per day of 10 hrs.
						$	$		′	′ ″	′ ″	′			
.....	.....	60	1908	Selkirk, Man.....	P.W.D.	4,000	2,500	Wood....	60	22 0	4 6	24	5 tons.....	Coal....	½ ton ....
Kuspidor.	.....	23	1912	Chase, B.C.	P.W.D.....	2,250	2,025	Wood....	46	16 0	3 0	12	.....	Wood...	½ cord....
No. 1.....	.....	50	.....	Goldea, B.C.....	.....	.....	1,000	Wood....	50	18 0	3 6	18	5 cords....	Wood...	½ cord....
No. 3.....	.....	50	1911	Nakusp, B.C.....	S. Mills.....	2,600	2,500	Wood.....	50	18 3	4 6	20	6 cords....	Wood...	½ cord....
No. 6.....	.....	80	1913	Nelson, B.C.....	George Hale....	2,400	2,400	Wood.....	60	20 0	4 0	*a*40	10 cords..	Wood...	½ cord....

Name.	Boiler.			Hoisting Engine.			Leads.		Weight of Hammer.	Weight of Cap.	Distance between Leads.	Number of Crew.	Where employed.	Remarks.
	Type.	Diameter	Length.	Size.	Type.	Maker.	Height.	Size..						
		′ ″	′ ″				′		Lb.	Lb.	–			
....	Upright	3 6	7 0	6x10″.....	Double.	Doty.....	32	6″x8″.....	2,000	.....	16	9	Man., Sask., Alta.	*a* Boilers and Engine 6″x10″ American Hoist.
Kuspidor...	Vertical	2 9	6 1	5½x8″.....	Simple .	American Hoist & Derrick Co.	40	6″x12″.....	2,000	.....	16	6	B.C.....	
No. 1	*a*	.....	.....	.....	.....	.....	40	6″x8″.....	1,800	.....	20	7	B.C.....	*a* Driven from Snag boat Muskrat.
No. 3	Vertical	3 0	7 0	(2) 6¼″x10″	Simple..	American Hoist & Derrick Co.	60	{6″x8″ Top 6″x10″ Bot}	2,200	.....	16	6	B.C.....	
No. 6.....	Vertical	2 6	7 0	(2) 6″x10″.	Simple .	J. S. Mundy *b*.....	50	6″x12″x50′.	2,200	.....	18	4 to 8	B.C.....	*a* 10″ light. *b* Newark, N.J., U.S.A.

DEPARTMENTAL DERRICK SCOWS, 1916.

Number.	When Built.	Where Built.	Builder.	Cost equipped.	Present estimated Value.	Hull.									Engines.			Boiler.				Coal consumption per day, 10 hrs.	Used in connection with.	Remarks.
						Material.	Thickness of Sides.	Thickness of Bottom.	Thickness of Deck.	Length	Beam	Depth.	Draft, Light.	Draft, Loaded.	Number.	Size.	Type.	Type.	Diameter.	Length.	Working Pressure				
				$	$		"	"	"	"	'	' "	' "	'					' "	'	Lb				
a1	1911	Vancouver, B.C...	Vancouver Shipyards, Ltd.	715	600	Wood	4	2½	2	32 4	11	2 3½	0 10	2	.....	.....	.....	.....	.....	.....	.....	.....	P.W.D. No. 306.	a Used as water scow.
a2	1911	Victoria, B.C.....	Alex. Watson....	720	375	Wood	4	2½	2	32 0	12	2 1½	0 11	2	.....	.....	.....	.....	.....	.....	.....	.....	P.W.D. Lobnitz No. 1.	a Used for taking up anchors and furnishing water.
a3	1914	Vancouver, B.C...	W. Menchions...	700	675	Wood	4	2½	2	32 4	12	2 6	0 10	2	.....	.....	.....	.....	.....	.....	.....	.....	P.W.D. Lobnitz No. 2.	a Used for taking up anchors and furnishing water.
4	1911	North Vancouver, B.C.	Wallace Shipyards, Ltd.	6,400	4,950	Wood	6	4	3	70 0	26	8 4	3 0	6	1	(2) 8"x8"	Simple	Vertical	3 6	8	100	½ ton	P.W.D. No. 306	
..	1905	Chicoutimi..	P.W.D	.....	3,500	Wood	....	....	....	65 0	27	4 3	2 0	....	1	(2) 6x12"	Simple	Upright	4 2	8½	125	½ ton	.....	Chicoutimi Saguenay.

DEPARTMENTAL INSPECTION BOATS, 1916.

Name.	Official Registry Number.	Registered Tonnage.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value.	Hull. Material.	Hull. Length O. A.	Hull. Beam. Amidship.	Hull. Depth.	Hull. Working Draft.	Average Speed.	Engines. Number.	Engines. Size.	Engines. Type.	Engines. Make.	Engines. I.H.P.
						$	$		'	''	'	''						
*J. H. Montgomery. ...	.....	5 ,153	1915	Selkirk, Man....	P. W. D.....	5,500	4,000	Wood.....	75	17 4	8	7 0	10 M.p.h..	1	8" & 16"x12".	[1]Compound.	Doty.....	.....
Athel	....	.....	1910	Vancouver, B.C...	Vancouver Shipyard, Ltd.	4,510	4,086	Wood.....	44	9 6	4	1 8	10 M.p.h.	1	.....	[1]Gasoline...	Buffalo...	30
Marion	..	....	1913	Nelson, B.C.....	George W. Hale.	3,350	3,300	Wood.....	35	7 0	5	2 6	12 M.p.h.	1	$1\frac{7}{8}$"x$5\frac{1}{2}$".....	[1]Gasoline...	Niagara	25
Walronda	133710	30	1912	Hong Kong.....	W. S. Bailey & Co.....	12,000	12,000	Teak	60	13 0	7	...	.....	2	.....	Gasoline ...	.....	20

Name.	Boilers. Number.	Boilers. Type.	Boilers. Diameter.	Boilers. Length.	Boilers. Horse Power.	Propellers. Number.	Propellers. Size.	Fuel. Capacity.	Fuel. Kind.	Fuel. Average consumption per day, 10 hr.	Number in Crew.	Sleeping accommodation for.	Size of Life Boat.	Number of Life Belts.	Where Used.	Remarks.
			''	'												
*J. H. Montgomery.. .	1	Fitzgibbon	[2]4 6	8	.	1	4' 6" .	17 tons....	Coal	1,500 lbs..	4	9	11'x4'6"...	12	Man., Sask., Alta...	[1]Condensing. [2]7'0" H.
Athel	...	.....	...	...	...	1	2'	100 gals...	Gasoline..	20 gals....	1	4	[2]16'.....	4	B. C.....	[1]Four cycle. [2]Dinghy.
Marion	..	....	...	...	...	1	22".....	50 gals...	Gasoline.	25 gals....	1	4	18'.....	2	B. C.....	[1]Medium Duty.
Walronda	.	.. ..	..	....	.	2	. ...	.....	Gasoline..	....	..	.	12'		B. C. coast	[3]Old Victoria rebuilt 1914-15 now call J. H. Montgomery.

*Old Victoria rebuilt 1914-15 and now called J. H. Montgomery.

Name.	Official Registry Number.	Tonnage.	When Built.	Where Built.	Builder.	Cost Equipped.	Present Estimated Value.	Hull. Material.	Hull. Length between perpendicular	Hull. Beam Amidship	Hull. Working Draft.	Fuel Capacity.	Kind of Fuel.	Average fuel consumption per day of 10 hours
						$	$		' "	' "	' "			
Helena	133,758	G.299·46, R.203·63	1907	Collingwood, Ont.	Collingwood Shipbuilding Co.	52,500	50,000	Steel	91 0	23 3	13 0	80 tons	Soft coal	4 tons
Lisgar	126,493	G. 210 R.118·06	1907	Sorel, Que.	Pontbriand Co., Ltd	47,500	45,000	Steel	90 0	23 8	10 0	50 tons	Soft coal	3 tons
Canso	126,803	G.225·06, R.47·24	1910	Yarmouth, N.S.	New-Burrell-Johnson Iron Co., Ltd.	46,500	45,000	Steel	91 0	22 0	10 6	50 tons	Soft coal	4 tons
Fredericton	131,137	G.109·21, R.46·76	1913	Toronto, Ont.	Polson Iron Works	31,930	31,000	Steel	71 0	21 4	9 0	25 tons	Soft coal	2 tons
Sogenada	126,766	G. 64·33, R.5·83	1909	Rutherglen	William Chalmers & Co.	20,000	20,000	Steel	73 0	15 0	10 0	14 tons	Soft coal	2½ tons
Mabel Reid	122,597	G.62·82, R.17·06	1887	Freeport, Me.		7,000	5,000	Wood	68 0	15 9	8 6	8 tons	Soft coal	2½ tons
Rona	112,348	G.70·05, R.42·47	1903	Liverpool, N.S.	Robie S. McLeod	8,000	8,000	Wood	80 6	20 0	8 0	6 tons	Soft coal	2 tons
Eileen	103,213		1907	Buckingham, Que.	W. H. Kelly	6,800	4,500	Wood	40 0	3 6	5 8	4 tons	Soft coal	1 ton
Alva	111,447	22	1901	Ottawa, Ont.	Capt. Henry Shaver	5,500	4,000	Wood	50 0	13 2	5 11	5 tons	Soft coal	1 ton
Sir John	133,939	G. 94, R .41	1902	Sorel	P. W. D.	17,000	9,000	Wood	81 2	[9]18 10	8 0	6 tons	Soft coal	1 ton
Mina G	126,529	G 23, R' 14	1910	Buckingham, Que.	W. H. Kelly	7,865	5,000	Wood	45 0	13 6	6 0	4 tons	Soft coal	1 ton
Aylmer			1910	Toronto, Ont.	Polson Iron Works	8,475	7,000	Steel and wood		11 6	4 4	5 tons	Soft coal	1 ton
Hercules	122,217	96·75	1906	Toronto, Ont.	Polson Iron Works	70,000	60,000	Steel	97 0	23 6	10 6	60 tons	Soft coal	3½ tons
Archie Stewart	96,718	G. 80, R. 50	1890	Ottawa				Wood	85 0	18 0	8 4	18 tons	Soft coal	5 tons
Marie Louise		G· 32·77, R. 12·01	1900	Roberval, Que.	Beauchemin & Fils		1,000	Wood	55 0	15 0	4 9	1½ cords	Wood, coal	2 cords
Maggie K	131,132	G.24·73, R.12·55	1912	Buckingham, Que.	See remarks[2]	7,000	6,000	Wood	46 0	13 0	6 0		Soft coal	
Cliffside	126,405	22	1909	Ottawa, Ont.	J. Hall	9,000	7,000	Wood	70 9	16 8	6 4	15 tons	Soft coal	4 tons
St. Paul	71,641	G.45, R.28	1875	Montreal			9,000	Wood	52 0	16 0	9 6	14 tons	Soft coal	1½ tons
Monitor	107,891	G.61·59, N.39·13	1898	Montreal, Que.	J. & R. Weir	12,500	11,000	Steel	60 6	16 0	8 6	16 tons	Soft coal	2½ tons
Storm King	88,633	73	1885	Portland, N.B.		22,000	18,000	Wood	92 0	19 0	12 0	28 tons	Soft coal	2½ tons
Peel	126,683	116·73	1909	Sorel, Que.	Pontbriand Co.	47,500	45,000	Steel	91 0	22 0	9 6	45 tons	Soft coal	2½ tons
Dora	96,710	G.48, R.44	1889	Opemican, Que.	Alex. Miller	3,000	4,000	Wood	56 0	11 6	6 6	6 tons	Soft coal	1 ton
Ottawa	91,628	G.21, R.14	1888	Ottawa, Ont.			4,000	Wood	1	4	6 10	6 tons	Soft coal	1 ton
Trudeau	133,940	G.81·04, R.55·11	1897	Sorel, Que.	P. W. D.		9,000	Wood	80 0	18 6	7 10	12 tons	Soft coal	2 tons
Annette			1898	Sorel, Que.	Beauchemin & Cie	6,000	5,500	Steel and wood	57 0	12 6	4 0	6 tons	Soft coal	3 tons
Fashion	122,019	G.43·10, N.26·58	1893	W. Bay City, Mich.		8,000	3,500	Wood	52 0	16 0	7 6	8 tons	Soft coal	2½ tons
Blanche	71,269	G.28, R.19	1872	Deserohto, Ont.			3,000	Wood	50 0	9 6	4 0	4 tons	Soft coal	2½ tons
Daisy	100,465	G.15, R.10 [3]	1893	Quebec, Que.		1,200	7,500	Wood	52 0	11 0	5 0	4 tons	Soft coal	2½ tons
Delisle	61,134	G.16, R.17 [6]	1869	Buffalo, N.Y.			12,000	Wood	62 4	14 8	7 4	7 tons	Soft coal	4 tons
Lion							800	Wood	35 0	8 0	3 0	¼ ton	Soft coal	¼ ton
J G. Witherbee	122,251	G.165, R.82	1872	Philadelphia, Pa.			15,000	Iron	111 2	22 0	11 0	15 tons	Soft coal	4 tons
Lisgar	122,272	G.26, R. 17·92	1910	Selkirk, Man.	P. W. D.	4,000	3,000	Wood	48 0	14 0	5 0	6 tons	Soft coal	½ ton
Peguis		G. 38·93, R. 24·48	1912	Selkirk, Man.	P. W. D.	9,700	7,000	Wood	58 0	15 4	6 0	8 tons	Soft coal	½ tons
Friday		G. 38·93, R. 26·48	1911	Selkirk, Man.	P. W. D.	8,250	6,500	Wood	58 0	15 4	6 6	8 tons	Soft coal	½ tons
Carberry	112,293	G.62, R.42	1903	Westbourne, Man.		10,000	9,000	Wood	69 8	16 5	5 0	2 cords	Wood	2 cords
Point Ellice	130,897	G.162·67, R.69·40	1911	North Vancouver, B.C.	McDougall Jenkins	48,700	14,000	Steel	85 0	21 0	10 6	99 bbls	Crude oil	10 bbls
Point Garry	134,303	G.19, R.13	1911	Vancouver, B.C.	Vancouver Shipyard	9,315	7,200	Wood	45 0	10 7	6 6	380 gals	No. 1 distillate	50 gals
Point Grey	130,917	G.238·47, R.162·16	1912	North Vancouver, B.C.	Wallace Shipyards Ltd	69,800	62,000	Steel	93 4	22 3	(F. 11' 0" (A.14 0"	195 bbls	Oil	10 bbls
Point Hope	130,310	G.55·06, R.44·93 N.	1910	Vancouver, B.C.		17,000	13,100	Wood	63 9	16 9	9 6	24 tons	Soft coal	1½ tons
Petrel	121,974	G.134, N.58	1906	Victoria, B.C.	Victoria Mach'y Depot	35,000	24,000	Steel	86 4	19 0	12 0	120 bbls	Soft coal	12 bbls
Le Pas		G. 23·24, R. 15·81	1913	Selkirk	P. W. D.	6,000	6,000	Wood	54 0	12 0	5 0	4½ cords	Wood	1½ cords
Ruby		G. 20, R. 18	1908	Toronto	Polson Iron Works	7,000	4,000	Wood & Iron	40 0	12 0	3 6	2 tons	Soft coal	½ ton
Vaughan	134,258	G.134·04, R.91·15	1914	Selkirk	P. W. D.	17,500	15,000	Wood	84 5	12 0	8 0	16 tons	Soft coal	1 ton
Mossy River		G. 30·15, R. 20·51	1915	Selkirk	P. W. D.	6,000	6,000	Wood	54 0	11 0	4 6	6 tons	Soft coal	¼ ton

[9] Over all. [2] Estella Ann Kearney, wife of W. H. Kelly. [1] 57' O. A. [4] 13' 6" O. A. [3] Rebuilt 1914 at Ottawa, Ont. [6] Rebuilt 1914 at Ottawa, Ont.

DEPARTMENTAL TUGS, 1916—*Concluded.*

Name.	Engines.					Boilers.				Condenser.		Size Towing Propeller.	Number of Crew.	In attendance on.
	Number.	Type.	Size.	I. H. P.	Make.	Number.	Type.	Diameter.	Length.	Size.	Type.			
								′ ″	′ ″					
Helena	1	Triple expansion	14½″, 25½″ & 41½″x25″	580	Collingwood Shipbld'g Co.	1	Scotch	13 6	10 6	[2]8′3″x3′4″x1′11″	Surface	9′6″ D. x 11′ P.	11	P.W.D. No. 1.
Lisgar	1	Triple expansion	12″, 19″ & 30″x20″	400		1	Scotch	10 6	9 6	[30]′x3′x2′	Surface	7′ D. x 10′ 6″P	12	P.W.D. No. 6.
Canso	1	Triple expansion	12″, 19″ & 30″x20″	325	New-Burrell-Johnson I. Co.	1	Scotch	10 3	9 6	[5]674 sq. ft.	Surface	7′6″ D. x 10′ P	11	P.W.D. No. 2.
Fredericton	1	Compound	12″ x 26″x18″		Polson Iron Works	1	Scotch	10 0	11 0	[6]5′x2′6″x3′	Surface	6′ D. x 8′ P.	8	P.W.D. No. 3.
Sogenada	1	Compound	14″ & 30″x21″	300	James Ritchie Patriek	1	Scotch	9 0	9 0	6′x4′x2′	Surface	6′ D. x 9′ P.	8	P.W.D. No. 13.
Mabel Reid	1	Compound	10″x18″x14″	200		1	Vertienl	5 7	6 6	[7]18″x5′5″	Surface	5′ D. x 9′ P.	3	P.W.D. No. 14.
Rona	1	Compound	10″ & 20″x16″		New-Burrell-Johnson I. Co.	1	Upright	5 2	9 6	5′4″x18″x22″	Surface	5′6″	6	P.W.D. No. 4.
Eileen	1	Simple	12″x12″		Orr & Sembower	1	Scotch	6 6		[8]		4′4″	3	P.W.D. No. 102.
Alva	1	Compound	9½″ & 17½″x12″		Low Bros	1	Fitzgibbon	9½ 7	8 1	7″x9″x12″	Jet	4′8″	8	P.W.D. No. 103.
Sir John	1	Simple	16″x20″	405	Lockport	1	Fitzgibbon	[10]	11 0			6′	3	P.W.D. No. 120.
Mina G	1	Simple	12″x12″			1	Scotch	6 0	9 0			4′7″	3	P.W.D. No. 106.
Aylmer	2	Simple	6″x7″			1	Fitzgibbon	[11]	6 0			2′ of 3′	3	P.W.D. No. 108.
Hercules	1	Triple expansion	13½″, 22″& 36″x21″		Polson Iron Works	1	Scotch	10 6	12 6	8′6¼″x2′5½″	Surface	8′	9	P.W.D. No. 109.
Archie Stewart	1	Simple	21″x18″		J. & R. Weir	1	Square Fire Box	7 3	[12]12 4			6′6″	6	P.W.D. No. 110.
Marie Louise	2	Simple	8″x9″		F. X. Drolet	1	Horizontal	4 0	4 0			3′4″	3	P.W.D. No. 111.
Muggie K	1	Simple	12″x12″			1	Return Tubular.	[13]	7 5			4′4″	3	P.W.D. No. 112.
Cliffside	1	Simple	15″x15″		J. & R. Weir	1	Fitzgibbon	[14]	9 3½			5′4″	3	P.W.D. No. 113.
St. Paul	1	Compound	12″ & 24″x18″		Knight & Gibson	1		[15]	12 0	3′x14″	Jot	6′1″	3	P.W.D. No. 114.
Monitor	1	3 Cyl. Simple	12″x18″		J. & R. Weir	1	Scotch	8 6	9 7		Wheeler Surface	6′2″	7	P.W.D. No. 115.
Storm King	1	Compound	16″ & 32″x24″		F. X. Drolet	1	Scotch	10 0	12 0		Surface	8′	9	P.W.D. No. 116.
Peel	1	Triple expansion	12″, 19″ & 30″x20″		McKie & Baxter	1	Scotch	9 6	11 11	[16]10′ long	Surface	10′6″	8	P.W.D. No. 117.
Dora	1	Simple	10″x12″			1	Tug	4 2	[17]8 0			4′6″	3	P.W.D. No. 118.
Ottawa	1	Compound	11″ & 20″x16″		J. & R. Weir	1	Fitzgibbon	[18]4 6	9 0		Wheeler Surface	5′6″	3	P.W.D. No. 119.
Trudeau	1	Simple	16″x18″		Lockport, N.Y	1	Tug	[19]6 10	12 3			6′	3	P.W.D. No. 120.
Annette	2	Compound	5″ & 10″x12″	9	Beauchemin & Cie	1	Upright	4 3	8 7	4′x6′	Surface	34″ x 36″ P	4	P.W.D. No. 122.
Fashion	1	Compound	14″ & 24″x13″		F. W. Wheeler Co	1	Fitzgibbon	5 9	6 3		Jet	6′	3	P.W.D. No. 123.
Blanche	1	Simple	10″x12″			1	Fitzgibbon					3′6″	3	
Daisy	1	Simple	9″x10″			1	Fitzgibbon	[20]4 0	6 6			4′	3	
Delisle	1	Simple	18″x20″		Bell Steam Engine Works	1	Tug	[21]6 6	12 0			6′2″	3	
Lion	1	Compound	4″ & 8″x6″		F. X. Drolet, Quo	1	Upright	3 4	5 0	2½″ pipe	Keel	35″	2	
J. G. Witherbee	1	Compound	18″ & 36″x24″			1	Tug	[22]0 0		3′x4″9″	Admiralty	8′4″	5	
Lisgar	1	Simple	9″x9″		Doty	1	Scotch	5 0	7 0			44″ x 76″ P	4	P.W.D. No. 202.
Peguis	1	Simple	12″x12″		Doty	1	Scotch	6 0	7 0			5′ D. x 7′ P.	4	P.W.D. No. 204.
Friday	1	Simple	12″x14″		Doty	1	Scotch	6 0	7 0			5′ D. x 7′ P.	4	P.W.D. No. 205.
Carberry	2	Simple	10″x10″		Doty	1	Scotch	7 0	9 0			2′-4′	4	
Point Ellice	1	Compound	16″ & 34″x24″	450	Ross & Duncan	1	Scotch	12 0	11 0	[23]	Surface	8′3″ D., 10′ P	[24]14	P.W.D. No. 301.
Point Garry	1	[25]Imperial	3-8½″x10½″		Imperial							4′1″D.x 2′ 8″ P	2	P.W.D. No. 305.
Point Grey	1	Compound	17″ & 40″x27″	550	Campbell & Calderwood	1	Scotch	14 0	12 0	[26]	Surface	10′D. x 10′ 6″ P	[27]14	P.W.D. No. 306.
Point Hope	1	Compound	9½″ & 20″x14″	135	John Doty	1	Scotch	7 8¼	10 7½	4′4″x2′	Surface	6′ D. x 5′ P.	[28]10	P.W.D. No. 307.
Petrel	1	Compound	11″ & 24″x16″	250	Victoria Mach'y Dep.	1	Scotch	9 6	10 10	[29]	Surface	94′ D. x 93′ P.	6	General Service Victoria, B.C.
Le Pas	1	High Pressure	9″x9″		Doty	1	Scotch	5 0	7 0			3′8″ D. x 70″ P	4	P.W.D. No. 208.
Ruby	2	Simple	6″ x 6″		Polson	1	Fitzgibbon		6 6			32″ x 64	4	Spare tug.

Vaughan	1	Compound	11" x 22" x 15"		Davidson	1	Scotch	9	0	11	0		Jet	6' D. x 9' P.	4	Supplying dredge lock work.
Mossy River	1	Simple	9" x 9"			1	Scotch	5	0	7	0			44" D. x 78" P.	4	P.W.D. No. 210

[2] Cooling surface 800 sq. ft. [3] 500 $\frac{3}{4}$" tubes. [5] 589 tubes 7' long x $\frac{3}{4}$" dia. [6] 571 tubes. [7] 172 tubes. [8] Heater. [8] Wide. [9] Over all. [10] 6' W. 8' 4" [11] 4' W., 6' H. [12] 9' 1" high. [13] 4' 7" W. x 7' 4" H. [14] 4' 9" W. x 8' 4$\frac{1}{2}$" H. [15] 6' W. x 7' H. [16] 427-$\frac{3}{4}$" tubes, 698·5 sq. ft. cooling surface. [17] 7' 4" H. [18] Wide x 7' H. [19] Wide x 8' 6" H. [20] Wide, 6' H. [21] Wide, 9' H. [22] Wide x 13' H. Dome 5' 2$\frac{1}{2}$". [23] 485 sq. ft. cooling surface. [24] 2 shifts. [25] San Francisco, 3 Cyl., 4 Cycle Gasoline Engine. [26] 800 sq. ft. cooling surface. [27] 2 shifts. [28] 2 shifts. [29] 260 sq. ft. cooling surface.

DEPARTMENTAL GASOLINE TENDERS, 1916.

Name.	Official Registry Number.	Registered Tonnage.	When Built.	Where Built.	Builder.	Cost Equipped.	Present estimated Value.	Hull. Material.	Hull. Length, O. A.	Hull. Beam Amidship.	Hull. Depth.	Hull. Working Draft.	Average Speed.
						$	$		'	"	' "	' "	
Trent			1914			350		Wood	22	8		2 6	
Runabout						1,000		Wood	35	8			
Knockabout			1914	New Westminster, B.C.	Westminster Marine Rys.	5,870	5,300	Wood	40	11	5 6	4 6	9½ M.p.h.
Roustabout			1913	Vancouver, B.C.	W. Menchions	5,500	4,500	Wood	40	12	5 6	4 6	8 M.p.h.
			1911	Vancouver, B.C.	Vancouver Shipyards, Ltd.	2,900	1,900	Wood	31	9	3 10	4 0	8½ M.p.h.

Name.	Engines. Number.	Size.	Type.	Make.	I.H.P.	Propellers. Number.	Size.	Fuel. Capacity.	Kind.	Average consumption per day, 10 hr.	Number in crew.	Sleeping accommodation for.	Size of life Boat.	Number of Life Belts.	Where Used.	Remarks.
Trent	1	(2) 9	Gasoline	Fraser Heavy Duty	18	1	21"	80 gal.	Gasoline	6 gal.					M.P.	[4]Purchased 1915 from Humphrey
Runabout	1	(3) 8 x 10	Gasoline	San Francisco Standard	40		46"; D.x 36" P.	450 gal.	No. 1 distillate	35 gal.	1			4	B.C.	[1] 3 cyl., 4 cycle.
Knockabout	1		Gasoline	Corliss	35	1	38" D.x 40" P.	450 gal.	No. 1 distillate	35 gal.	1			4	B.C.	[2] 3 cyl.
Roustabout	1	6x7½	Gasoline[1]	Buffalo "Heavy Duty"	[2]24	1	29" D.x 46" P.	90 gal.	No. 1 distillate	22½ gal.	1			1	B.C.	[1] 4 cyl. [2]B.H.P.
	1		Gasoline	Fraser	8	1	21"	15 gal.	Gasoline	2 gal.						With dredge P.W. D. No. 2

DEPARTMENTAL LAUNCHES, 1916.

When Built.	Where Built.	Built by.	Cost.	Present value	Hull.				Engine.		Fuel.	In connection with.	Remarks
					Material.	Length.	Beam.	Depth.	Type.	Horse Power			
			$	$		' "	' "	' "					
1907....	Danzig, Germany	Shichan & Co	.....	320	Wood	18 6	6 6	2 6	Yale, 4 Cycle	5	Gasoline..	P.W.D. No. 301.....	
1912....	North Vancouver, B.C.	A. Linton	448	360	Wood	18 6	6 0	1 11	Ferro, 2 Cycle	5½	Gasoline..	P.W.D. No. 303. ...	
1911....	Vancouver, B.C.	Vancouver Shipyards, Ltd.	450	225	Wood	18 6	6 6	2 6	Grey, 2 Cycle	8	Gasoline..	P.W.D. No. 307...	
1914....	Vancouver, B.C.	Y. M. Dafoe	335	300	Wood	20 0	6 0	2 4	Caillie Perfection, 2 Cycle	8	Gasoline..	Divers, B.C.	[1]
1907....	Danzig	Shichan & Co	454	250	Wood	18 0	5 0	2 6	Canadian Fairbanks Morse	8	Gasoline..	Drilling Plant, B.C.	2 Cyl., 2 Cycle
1913....			300	...	Wood	22 8	7 4	...	Fairbanks Morse	6	Gasoline.	P. W. D. No. 3	
1907....	Selkirk, Man	P. W. D.	1,200	800	Wood	31 0	7 0	3 0	Buffalo, 4 Cycle, 4 cylinders..	...	Distillate.	with Dredges.....	

DEPARTMENTAL HOPPER SCOWS, 1916.

Departmental Number.	When built.	Where Built.	Builder.	Cost. each.	Present estimated value each.	Material of construction.	Length.	Breadth.	Depth.	Draft light.
				$	$		' "	' "	'	' "
No. 101 and 102	1907	Collingwood, Ont.	Collingwood Shipbuilding Co.	28,000	22,000	Steel	140 0	32 5	11 6	4 0
No. 103 and 104	1907	Toronto, Ont.	Polson Iron Works	28,000	22,000	Steel	146 0	32 6	11 6	4 0
No. 105 and 106	1906	New Glasgow, N.S.	I. Matheson & Co.	11,000	7,000	Steel	106 0	23 0	8 7	4 0
No. 107		Pictou, N.S.	Pictou Foundry and Machine Co.	10,000	7,000	Steel	107 0	24 0	8 0	3 0
No 108 and 109	1907	St. John, N.B.	Jas. Fleming	11,000	6,000	Iron and steel	*111 8	23 9	7 9	3 2
No. 110 and 111					2,000	Wood	72 6	19 8	7 0	3 5
No. 112, 113 and 114					300	Wood	55 0	19 0	5 0	2 6
No. 151	1897	Point Levis, P.Q.	Carrier Laino Co.	11,000	5,000	Steel	107 0	22 6	8 0	4 0
No. 152		New Glasgow, N.S.	I. Matheson & Co.	11,000	7,000	Steel	107 0	22 6	8 0	4 0
No. 153 and 154	1906	Yarmouth, N.S.	The New Burrill Johnson Iron Co.	11,000	7,000	Steel	109 0	22 0	8 0	3 0
No. 155	1906	St. John, N.B.	Jas. Fleming & Son	11,000	5,000	Steel	110 0	25 0	8 0	3 0
No. 156 and 157	1912	New Glasgow, N.S.	Brown Machine Co.	14,000	14,000	Steel	77 0	28 6	8 3	2 6
No. 2 and 57	1907	St. Jean Iberville	P.W.D.		4,000	Wood	68 0	21 0	7 0	2 6
No. 10	1904	Ottawa	P.W.D.			Wood	71 0	19 0	7 0	2 6
No. 11	1904	Ottawa	P.W.D.			Wood	73 0	19 0	7 0	2 6
No. 12 and 13	1910	Aylmer	James Bailie	2,000	1,500	Wood	54 0	13 0	5 6	18
No. 14	1908	Collingwood	Collingwood Shipbuilding Co.	24,000	21,000	Steel	144 0	31 0	11 6	5 0
No. 15	1907	Collingwood	Collingwood Shipbuilding Co.	24,000	21,000	Steel	144 0	31 0	11 6	5 0
No. 18 and 19	1914	Roberval	P. W. D.	3,500	2,000	Wood	60 0	16 4	5 6	2 2
No. 20 and 21	1905	Sturgeon Falls	Tassier & Smith	3,000	5,000	Wood	70 0	19 4	7 0	2 0
No. 22 and 23		Sorel, P.Q.	P.W.D.		1,500	Wood	62 0	17 4	7 0	3 0
No. 24 and 25	1906	Buckingham, Que.	W. H. Kelly	4,000	3,000	Wood	52 10	11 2	5 5	19
No. 26 and 27		Ottawa, Ont.	P.W.D.		3,000	Wood	61 0	16 9	6 0	2 0
No. 28 and 29					4,000	Wood	76 0	22 6	7 0	2 4
No. 32 and 33					4,000	Wood	72 0	20 0	7 4	2 8
No. 35	1905	Ottawa	P.W.D.		425	Wood	90 0	25 0	11 0	3 0
No. 38 and 39	1909	Toronto	Toronto Ship Yard Co.	14,000	14,000	Steel	102 0	28 3	9 0	3 0
No. 40 and 41	1903	Temiskaming Station	Charles Morin	2,000	3,500	Wood	67 0	25 6	5 0	18
No. 42 and 43					3,500	Wood	54 5	14 0	5 5	2 0
No. 44 and 45	1899	Ottawa	P.W.D.		5,000	Wood	72 0	20 3	7 2	3 0
No. 48	1912	Grandes Piles, Q.	P.W.D.	3,000	3,000	Wood	54 0	20 0	6 0	1 0
No. 49	1915	St. Jean des Piles	P.W.D.	3,000	3,000	Wood	54 0	20 0		1 0
No. 50					4,500	Wood	132 0	28 6	9 0	3 0
No. 53 and 54	1913	Levis.	Geo. T. Davie & Sons	14,850	14,850	Wood	89 0	25 0	10 0	3 0
No. 16		Sorel.	P.W.D.		9,000	Wood	90 0	25 0	10 0	2 6
		Ottawa				Wood	72 0	21 0	9 0	2 6
No. 17	1913	Sturgeon Falls	Chas. Williams	4,700	4,500	Wood	70 0	19 4	7 0	2 2
No. 115 and 116	1906	St. John, N.B.	J. Fleming, Phonix Foundry	17,000	14,000	Steel	108 0	23 10	8 3	2 6
No. 201 and 202	1911	Selkirk, Man.	P.W.D.	4,500	3,000	Wood	80 0	20 0	7 0	3 0
No. 203 and 204	1911	Selkirk, Man.	P.W.D.	2,500	1,700	Wood	60 0	16 0	6 0	2 2
No. 205 and 206	1911	Selkirk, Man.	P.W.D.	2,500	1,700	Wood	60 0	16 0	6 0	2 6
No. 209 and 210	1910	Winnipegosis, Man.	P.W.D.	2,500	1,700	Wood	60 0	16 0	6 0	2 6
	1910	Westbourne, Man.	P.W.D.	2,700		Wood	60 0	16 0	6 0	2 6
	1906	Westbourne, Man.	P.W.D.	3,000		Wood	60 0	16 0	6 0	2 6
No. 311	1911	Nelson, B.C.	Thos. Cunningham	5,000	4,000	Wood	74 3	24 0	8 6	2 0

*109 is 111-8"

| | | |

DEPARTMENTAL HOPPER SCOWS, 1915—*Concluded.*

Departmental Number.	Draft loaded.	Number of Hoppers.	Capacity each Hopper	Total capacity.	Hoisting arrangement for Hopper Doors.	Used in connection with.	Province where used.	Remarks.
			Cu. Yds.	Cu. Yds.				
No. 49	5 0	4	10·75	43	Centre rollers	P. W. D. No. 122	Ont. and Que.	
No. 101 and 102	10 6	8	70	560	Side shafts, hand lever purchase	P. W. D. No. 1	Maritime Provinces	
No. 103 and 104	10 6	8	70	560	Side shafts, hand lever purchase	P. W. D. No. 1	Maritime Provinces	
No. 105 and 106	7 0	2	100	200	Winch and chain, lever hoist	P. W. D. No. 2	Maritime Provinces	
No. 107	8 0	2	96½	193	Lever	P. W. D. No. 3	Maritime Provinces	
No. 108 and 109	6 3	2	100	200	Ratchet windlass on each end of scow	P. W. D. No. 9	Maritime Provinces	
No. 110 and 111	6 0	2	50	100	Tubular barrel and chain, bar and ratchet	P. W. D. No 10	Maritime Provinces	
No. 112, 113 and 114	6 6	1	50	50	Barrel (wooden) and chains	P. W. D. No. 11	Maritime Provinces	
No. 151	7 5	2	100	200	Fore and aft winch hoist	P. W. D. No. 6	Maritime Provinces	
No. 152	7 5	2	100	200	Fore and aft winch hoist	P. W. D. No. 6	Maritime Provinces	
No. 153 and 154	6 0	2	107½	215	Crab winch, with ratchet	P. W. D. No. 7	Maritime Provinces	[1]No. 154 was built in 1907.
No. 155	8 0	2	100	200	Lever	P. W. D. No. 3	Maritime Provinces	
No. 156 and 157	7 2	3	56·78	170·34	Hand hoisting gear	P. W. D. No. 13	Maritime Provinces	
No. 2 and 57	5 6	2	26	52	Chain on roller	P. W. D. No. 106	Ont. and Que.	
No. 10	6 0	2	48½	97	Chain and roller	P. W. D. No. 123	Ont. and Que.	
No. 11	6 0	2	50	100	Chain and roller	P. W. D. No. 123	Ont. and Que.	
No. 12 and 13	4 6	2	14	28	Chain and Roller	P. W. D. No. 108	Ont. and Que.	
No. 14	11 0	8	75·7	607	Steam winding engine	P. W. D. No. 109	Ont. and Que.	
No. 15	11 0	8	63·3	507	Steam winding engine	P. W. D. No. 109	Ont. and Que.	
No. 18 and 19	5 0	2	32½	65	Chain and wooden roller	P. W. D. No. 111	Ont. and Que.	
No. 20 and 21	7 0	2	50	100	Chain and roller	P. W. D. No. 112	Ont. and Que.	
No. 22 and 23	6 0	2	39	78	By hand	P. W. D. No. 113	Ont. and Que.	
No. 24 and 25	4 3	2	15	30	Iron rollers worked by hand	P. W. D. No. 102	Ont. and Que.	
No. 26 and 27	5 6	2	33	66	Wooden roller and chain	P. W. D. No. 103	Ont. and Que.	
No. 28 and 29	6 0	3	40	120	Chain and cable on rollers	P. W. D. No. 105	Ont. and Que.	
No. 32 and 33	6 7	2	52½	105	Chain and roller	P. W. D. No. 114	Ont. and Que.	
No. 35	9 6	6	41½	249	Chain and roller	P. W. D. No. 115	Ont. and Que.	
No. 38 and 39	8 6	5	60	300	Chain and roller	P. W. D. No. 117	Ont. and Que.	
No. 40 and 41	4 0	2	18½	37	Steel roller	P. W. D. No. 118	Ont. and Que.	
No. 42 and 43	5 0	4	8¾	35	Eccentric dumper	P. W. D. No. 119	Ont. and Que.	
No. 44 and 45	6 6	2	50	100	Hand	P. W. D. No. 120	Ont. and Que.	
No. 48	5 0	4	10·75	43	Centre rollers	P. W. D. No. 122	Ont. and Que.	
No. 50	8 6	6	73·3	440	Chain, hand winding	P. W. D. No. 117	Ont. and Que.	
No. 53 and 54	9 0	6	43·83	263	Chain on roller	P. W. D. No. 110	Ont. and Que.	
No. 16	9 0	6	41·66	250	Wire on roller	P. W. D. No. 116	Ont. and Que.	
	8 6	2	51	102	Wire on roller	P. W. D. No. 116	Ont. and Que.	Since sold.
No. 36 and 17	7 0	2	50	100	Wire on roller	P. W. D. No. 112	Ont. and Que.	
No. 115 and 116	7 0	2	100	200	Hand winding	P. W. D. No. 4	Ont. and Que.	
No. 201 and 202	6 10	2	50	100	Rollers	P. W. D. No. 205	Man., Sask., Alta.	
No. 203 and 204	5 0	2	30	60	Rollers	P. W. D. No. 204	Man., Sask., Alta.	
No. 205 and 206	5 0	2	30	60	Rollers	P. W. D. No. 202	Man., Sask., Alta.	
No. 209 and 210	5 0	2	30	60	Rollers	P. W. D. No. 210	Man., Sask., Alta.	
	5 0	2	30	60	Rollers		Man., Sask., Alta.	
	5 0	2	30	60	Rollers		Man., Sask., Alta.	
No. 311	8 0	3	45	135	Ratchet and cable	P. W. D. No. 302	B.C.	
No. 303 and 304	7 6	4	50	200	Hand, pawl and ratchet	P. W. D. No. 307	B.C.	
No. 305 and 306	10 0	5	60	300	Chain, wire, shaft, hand hoist	P. W. D. No. 301	B.C.	

No. 307			8	6	5	52	260	Cog hand gear for air or steam	P. W. D. No. 313	B.C
No. 308, 309 and 310			10	0	5	52	260	Worm gear operated by air	P. W. D. No. 306	B.C
No. 46 and 47					2	30	60	Side dump	P. W. D. No. 121	Ont. and Que.
No. 207 and 208				5	10	30	60	Rollers	P. W. D. No. 208	Man.
No. 158 and 159				6	0	50	100	Side shafts	P. W. D. No. 11	Maritime Provinces
No. 117 and 118				12	0	63	505	Side shafts	P. W. D. No. 1	Maritime Provinces
No. 51, 52, 55 and 56				8	0	60	300	Side shafts	Spare	Ont. and Que.
No. 36				9	0	41·66	250	Wire on roller	P. W. D. No. 115	Ont. and Que.
No. 1				9	0	41·66	250	Wire on roller	P. W. D. No. 116	Ont. and Que.
No. 119				6	0	50	100	Centre rollers	P. W. D. No. 10	Maritime Provinces
No. 120 and 121				4	6	40	40	Centre rollers	P. W. D. No. 14	Maritime Provinces
No. 3 and 4				5	0	12½	50	Centre rollers	Steam Derrick	Chicoutimi

DEPARTMENTAL FLAT DECK SCOWS, 1916.

Number.	When built.	Where built.	Builder.	Cost.	Present estimated value.	Material of construction.	Thickness of sides.	Thickness of bottom.	Thickness of deck.	Length.	Beam.	Depth.	Draft light.	Draft loaded.	Used in connection with.	Remarks.
				$	$		"	"	"	' "	' "	' "	' "	' "		
.....	1914	Pictou, N.S.	William Talbot	450	450	Wood	3	3	2½	31 0	14 0	4 0	0 8	2 0	P.W.D. No.5	For removing ashes, etc. from dredge.
No. 40	.....	.....	.....	.....	.....	Wood	6	4	3	50 0	19 0	5 0	1 3	4 0	P.W.D. No. 119	
No. 42	1903	Temiskaming	Charles Morin	1,200	800	Wood	3	3	3	36 0	20 4	4 6	1 6	4 6	P.W.D. No. 118	
.....	.....	.....	.....	.....	.....	Wood	4	4	3	91 0	32 0	8 6	2 6	3 6	P.W.D. No. 110	
.....	.....	.....	.....	.....	2,000	Wood	4	4	3	85 0	30 0	8 6	2 0	6 0	P.W.D. No. 117	
.....	.....	Chicoutimi	P. W. D.	.....	.....	Wood	5	4	3	89 0	35 0	12 0	2 6	9 0	P.W.D. No. 115	Coal scow.
.....	1909	Roberval	Johnny Poitras	200	125	Wood	3	3	3	30 0	14 0	2 6	0 10	2 6	P.W.D. No. 111	Used for carrying wood or coal.
.....	.....	Deschenes	.....	.....	300	Wood	3	3	4	40 0	16 0	3 4	0 6	2 6	P.W.D. No. 108	One for fuel and one with cabin for accommodation.
.....	.....	.....	.....	.....	1,400	Wood	4	3	3	50 6	20 6	4 0	1 6	4 0	P.W.D. No. 103	
.....	.....	.....	.....	.....	.....	Wood	4	3	3	50 0	20 0	4 0	1 0	3 4	P.W.D. No. 122	
.....	1906	Buckingham	W. H. Kelly	800	640	Wood	3	3	3	49 7	18 2	4 0	1 3	2 7	P.W.D. No. 2	
.....	.....	.....	.....	.....	2,000	Wood	6	4	3	78 6	18 0	9 0	3 0	4 6	P.W.D. No. 113	
.....	1913	[1]Ottawa	P. W. D.	1,000	400	Wood	4	2	3	51 0	20 0	5 0	1 3	4 0	P.W.D. No. 112	[1]Shipped knock down and assembled, Sturgeon Falls.
.....	.....	.....	.....	.....	.....	Wood	3	3	3	75 0	18 0	5 0	1 3	4 0	P.W.D. No. 106	Coal barge.
.....	1908	Penticton, B.C.	P. W. D.	350	250	Wood	2	3	2	34 0	14 0	3 3	0 6	0 10	P.W.D. No. 301	
.....	1908	Chase, B.C.	P. W. D.	850	374	Wood	3	3	2	40 0	16 0	3 7	0 6	0 12	P.W.D. No. 309	Fuel scow.
.....	1912	Nakusp, B.C.	S. Mills	1,500	1,200	Wood	2½	2½	2½	60 6	18 4	4 5	1 0	3 0	P.W.D. No. 311	Coal tender.
.....	.....	.....	.....	.....	500	Wood	2½	2½	2	51 0	16 0	3 0	0 6	1 2	.....	.....
.....	1911	Nelson, B.C.	Thos. Cunningham	1,500	1,200	Wood	3½	3	2	60 0	18 0	4 4½	1 0	3 0	P.W.D. No. 302	Fuel barge and a forge and shop.
.....	.....	Golden, B.C.	.....	.....	1,000	Wood	3	3	2½	50 0	18 0	3 6	0 10	2 2	Snag boat Muskrat.	
.....	1913	Nelson, B.C.	George Hale	1,653	1,600	Wood	6 & 4	3	1	50 0	18 0	4 0	0 9	3 4	Pile driver No.1	Barge carrying capacity 50 tons. 12" plank and 1" sheeting.
.....	.....	Nakusp, B.C.	.....	.....	500	Wood	2½	2½	2	40 0	20 0	4 6	1 0	1 6	[1]Pile driver	As boarding camp.
.....	.....	Golden, B.C.	.....	.....	850	Wood	3	3	3	50 0	18 0	3 6	1 0	2 6	.....	.....
.....	.....	.....	.....	.....	500	Wood and iron.	6	4	3	86 0	24 0	5 5	1 6	4 6	P.W.D. No. 307	Coal and Cold Storage Scow.
.....	1913	New Westminster, B.C.	Westminster Marine Railways	3,236	2,700	Wood	4	2½	2	32 6 26 6	12 0	2 8 2 4	0 10	1 4	P.W.D. No. 305	3 long and 8 short pontoons.
.....	1911	Vancouver, B.C.	Vancouver Shipyards*	*	*	Wood	4	2½	2	32 6 26 6	12 0	2 8 2 4	0 10	1 4	P.W.D. No. 305	6 long and 8 short pontoons.
.....	1910	New Westminster, B. C.	P. W. D.	.....	1,820	Wood	4	2½	2	32 6	12 0	2 4	0 10	1 4	P.W.D. No. 305	14 pontoons.
.....	1901	New Westminster, B. C.	Royal City Planing Mills	.....	.....	Wood	4	2¼	1¾	34 0 24 0	12 0	2 3	0 10	1 4	P.W.D. No. 305	1 long and 11 short pontoons.
.....	1897	New Westminster, B. C.	P. W. D.	.....	.....	Wood	6	4	3	76 0	24 2	5 0	1 4	4 0	P.W.D. No. 305	Pipe scow.
.....	1904	New Westminster, B. C.	P. W. D.	.....	1,620	Wood	5	3	2½	60 0	18 0	4 0	1 8	2 0	P.W.D. No. 305	Power scow, blacksmith and carpenter shop.
.....	1910	New Westminster, B. C.	E. Mercer	1,000	630	Wood	5½	3	2½	45 6	16 6	5 0	1 0	3 0	P.W.D. No. 305	Water scow.
.....	1904	New Westminster, B. C.	P. W. D.	4,533	4,000	Wood	6	4	3	86 6	27 0	6 8	1 6	5 0	P.W.D. No. 305	Oil fuel scow.
No. 122	1911	Mahone Bay	O. A. Hanom	400	100	Wood	2	2	2	30 0	15 0	2 9	0 7	1 11	P.W.D. No. 15	Scowing away excavated material.

.....	1913	North Vancouver.....	Wallace Shipyards Ltd., and Standard Iron Works.	5,60`	4,800	Wood.....	6	4	3	66 9	21 0	5 9	0 10	5 0	P.W.D. No. 306	Oil fuel scow.
Spooabill..	1912	Penticton, B.C.....	P. W. D.....	1,600	1,120	Wood.....	3	3	2	40 0	20 0	3 10	0 10	1 2	P.W.D. No. 304	Bunk scow.
Mallard...	1914	Chase, B.C.....	P. W. D.....	1,762	1,762	Wood.....	3	3	2	50 0	18 0	4 0	0 10	1 2	Kuspidor.....	Bunk scow.
.....	1913	North Vancouver.....	Wallace Shipyard, Ltd.....	2,800	2,400	Wood.....	5	3	2¾	60 0	23 0	5 3	.....	.....	P.W.D. No. 306	Bunk scow, number of bunks 22.
.....	1912	North Vancouver.....	Wallace Shipyard, Ltd.....	2,500	2,200	Wood.....	6	3	3	61 0	20 9	5 8	.....	.....	P.W.D. No. 301	Bunk scow, number of bunks 24.
.....	1913	Victoria.....	Victoria Machinery Depot.....	177	140	Wood. ...	....	....	....	18 6	10 0	2 6	.....	.....	.....	Diver's outfit cost $850.
.....	.....	.....	.....	.....	.....	Wood	4	3	3	59 6	20 6	2 9	1 9	.....	P.W.D. No. 306	Carpenter's Shop.
.....	1912	North Vancouver.....	Wallace Shipyard, Ltd.....	2,500	2,200	Wood	4	3	3	53 8	20 8	6 6	.....	.....	P.W.D. No. 307	Bunk scow, number of bunks 12.

* Long $300 each. Short $200 each.
* Long $235 each. Short $155 each.

DEPARTMENTAL SWEEPING SCOWS.

No.	When built.	Where built.	Builder.	Cost.	Present estimated value.	Material of construction.	Hull.			Maximum sweeping depth.	Machinery operated by.
							Length.	Beam.	Deptb.		
							' "	' "	' "	' "	
3	1908	Ottawa.....	P. W. D.....	$8,000	$8,000	Wood.....	62 8	27 3	6 10	47 0	By steam.
2	1914	Ottawa.....	P. W. D.....	.....	.....	Wood.....	35 0	18 0	3 6	20 0	By hand.
1	1914	St. John, N.B.....	P. W. D.....	.....	.....	Wood.....	30 0	13 0	3 6	60 0	By hand.

DEPARTMENTAL INSPECTION BOATS NOT UNDER THE CONTROL OF THE DREDGING BRANCH.

Name.	Official Registry No.	Registered Tonnage.	When built.	Where built.	Builder.	Cost equipped.	Present Estimated Value.	Hull.					Average Speed.	Engines.				
								Material.	Lenght O.A.	Beam Amidship.	Depth.	Working Draft.		Number.	Size.	Type.	Make.	I.H.P.
						$												
Eugene			1915	Brockville, Ont	Harold F. Hodson	3,790		Wood	35 0									
D.P.W			1913	Dartmouth, N.S.	E. F. Williams	5,750		Wood	46 0		4½	5 0				Gasoline		
Margaret			1914		The Midland Coal Dock Co. / The Georgian Bay Shipbldg. Co			Steel frame / Wooden planks										
					Wm. Carson	15,650		Deck B.C. fir	83 0		11 0	8 2	10 miles p.h.			Marine		160 h.p.
Eleanor			1911	Douglastown, N.B.	Geo. Henderson	3,617		Wood	48 0		2 6	4 6				Gasoline		55-60 h.p.
Kegashka			1914		Dept. of Public Works	9,000		Wood	71 0		8 0	7 0				Gasoline		
Marie Louise			1911		Simard & Parad	2,500		Wood	37 0		8 0	4 0				Gasoline		
Jeannette			1912		Chantier Marit me de Saint-Laurent	3,500		Wood	29 0		5 0	5 0				Gasoline		
Montmorency				Sorel, Que	Mr. Beauchemia	20,000		Wood	66 0		5 8	6 0						21-3 h.p.
Florence				Brockville	St. Lawrence Engine Co. Ltd	1,300		Wood	29 6			2 6				Gasoline		
Lillian			1905	(Has since been destroyed)	Capt. Geo. Bussey—day's labour	500		Wood	26 8		32 0	2 0				2 cylinder		10 h.p.
Daphne			1912		Jos. Hobbs	2,000		Wood	41 0		6 6	2 6				Gasoline		
Cingalee			1905		Capt. Geo. Bussey—day's labour	6,500		Wood	78 0		5 0	7 0						
Nokomis						4,500		Wood	36 0		5 0	4 0		8 x16 x12		Doty eng		10·6 h.p.
Meteor			1913	Victoria, B.C.	Point Ellice Boat Co.	600		Wood	25 0		5 6	2 10				Gasoline		
Eloyne			1912	Nelson, B.C.	Thos. Cunningham	1,682		Wood	27 8		3 0	2 6				Gasoline		
Leila			1914	Prince Rupert	Dept. of Public Works	3,532		Wood	41 0		5 4	3 7				Gasoline		60 h.p.
Thelma			1910	Penetanguishene, Ont.	N. E. Gidley	2,100		Wood	35 0		3 10	2 8				Gasoline		25 h.p.
Senawa Nabee			1911		Fred. S. Heans	8,000		Wood	52 0		6 0	4 0				Gasoline		
Oswegatchie						28,000		Wood	71 0		7½	6 0				Coal		

DRY DOCKS.

The Dominion Government owns three dry docks and operates two, viz., the Lorne dry dock, at Lévis, province of Quebec; the Kingston dry dock, at Kingston, province of Ontario, and the Esquimalt dry dock, at Esquimalt, near the city of Victoria, in British Columbia.

LEVIS DRY DOCK.

During the past fiscal year, three new boilers were installed, three boiler fronts replaced, and the dock was kept in its usual state of efficiency.

The cost of repair, maintenance and improvement amounts to $24,113.05, whereas the revenue amounted to $30,495.63.

LAUZON DRY DOCK.

(This work is described in the annual report for 1915.)

During the year 1915-16, the dry dock excavation has been executed from the entrance on a length of 500 feet, and to its complete width and depth. The caisson chamber was excavated complete together with 75 per cent of the total excavation for the pump-house foundations. The work on excavation started about June 10, and stopped around December 15, 1915.

The excavation of tunnel to be used as water passage to pump-house started January 8, 1916, and on March 31, 385 feet out of 540 feet were completed.

All the material excavated during the year which is in greater quantity than was required as backfilling, was used in the cribs and the yard, the surplus being dumped on the adjacent property belonging to Mr. Belleau. The ladder dredge excavated during the year 55,759 cubic yards of earth and 700 yards of submarine rock.

During the year, four cribs were sunk, one for the guide piers and three for the landing wharf. Another one was built for the guide pier, but it was too late to sink it. The concrete superstructure of the landing wharf was also built on a length of 280 feet. The work started in June and ended in December. The concrete work started in April and ended in December, 1915.

The main walls and bottom of dock were built from the entrance on a length of 125 feet, which part comprises the outer floating caisson berth, the rolling caisson berth and the caisson chamber. This work was completed with all the granite that enters into it.

The erection of the rolling and floating caissons were started in November, 1915, and on March 31, 905 tons were erected for the rolling caisson and 200 tons for the floating caisson. This work was made under the inspection of the Canadian Inspection Company.

During the course of 1915-16, the power-house and chimney were built; the work started in September, 1915, and on March 31 the power-house and chimney were built complete, but for the painting. In the generator's room, a 15-ton overhead crane was installed, and two generators (1,500 K.W. and 300 K.W.) were set in place. In the boiler room, the erection of the boilers were under way, and on March 31 the frame and headers of all the boilers were put up.

On March 31, a considerable amount of material was on the work, for which an advance of 50 per cent is made, which amounts to $193,103.38.

The expenditure for the year 1915-16 was $993,802.27.

ESQUIMALT GRAVING DOCK.

During the year ending March 31, 1916, 31 ships were docked for repairs, painting, etc. The dock was occupied 232 days, and the total charges were $23,662, being about $10,000 more than the revenue collected the previous year.

Besides the docking and undocking of ships, the dock staff were employed in keeping the grounds in a presentable condition and in making minor repairs to buildings and fences.

The engine-room staff have been employed in renovating the inside of the building and in making repairs to the machinery where necessary, besides the ordinary routine of docking and undocking of ships.

The plant above ground is now in an efficient state of repair, but with our present equipment for keeping the lower culvert dry, it is very difficult to make any thorough inspection of the plant below the surface. For this reason it was necessary to obtain outside assistance, at a cost of $99.25, in order to repair the main pump. A 6-inch submerged vertical centrifugal pump, driven by an electric motor, should be provided to replace the existing steam-driven pump. As the machinery generally has been in use about thirty years, renewals of this description must be anticipated from time to time.

The efficiency of the dock would be greatly increased by the addition of a travelling crane, for which a sum of $9,000 would be required, and which would greatly facilitate matters for ships undergoing repairs.

The total expenditure for the fiscal year was $19,202.07.

LOCKS AND DAMS.

QUEBEC.

RIVIERE DU LIEVRE.

At Poupore, in Labelle county, 12 miles above Buckingham, on the Rivière du Lièvre, a lock and dam were built in 1886-92, to overcome Little rapids, for navigation to High falls, 12 miles upstream. During the open season there is a daily boat service.

In 1903, an extensive landslide destroyed the dam, which had to be reconstructed, lock gates, etc., repaired and improved, and considerable dredging done before navigation was restored in 1907. In 1914-15, a cribwork training pier, extending 300 feet below the lock entrance, was added and the original cribwork retaining wall was replaced by a concrete structure, 309 lineal feet, to hold the backfill on river side of masonry lock wall. There are a number of anchor cribs and booms for logging operations above the dam. These works have to be improved from time to time and are a source of continuous maintenance.

Work during the past year consisted of: Operating the lock, placing and repairing booms, gate repairs, timber slide repairs, new platform, roller and ladders, W. I. corner plates, new platform and winch frame for gap-boom, renewing a number of stringers and pieces of sheeting on apron of dam, some new stringers were replaced and repairs made to planking of the upstream guard crib, erecting two new sheds for plant storage and materials, minor repairs were made to the lockmasters house, and material procured for fencing Government property.

Expenditure during the fiscal year, $3,935.68.

MONTREAL RIVER.

Dam at Latchford.

Latchford, in the district of Nipissing, is a village station on the Toronto & Northern Ontario Railway, and is located on the Montreal river.

In 1910 the construction of a regulation and storage dam was started; owing to unsatisfactory progress, etc., the department had to take over this work from the contractors in 1912, and the dam was placed under operation late in 1913. A number of subsidiary works, including stiff booms, operating machinery, improvement of inflow and outflow at Latchford, as well as channel improvement in Pork rapids, etc., in connection with the general scheme, have since been completed.

Maintenance of dam during the past year included the manipulation of stop-logs, placing and removing of stiff booms, recording gauge readings, etc. In the spring of 1915, some 450,000 pieces of pulpwood and saw-logs were passed through the discharging sluiceway of the dam with very little trouble on the part of the lumbermen. Pending certain improvements under contemplation, which would make it necessary to provide new quarters for the caretaker, the old building which he uses as a residence was maintained and kept in proper repair.

Expenditure on maintenance during the fiscal year, $2,227.06.

YAMASKA LOCK AND DAM.

The lock and dam, built under contract about 1882, are situated 2 miles below the village of St. Michel d'Yamaska, where the Quebec, Montreal & Southern Railway crosses the Yamaska river, and where the Government built a wharf in 1909.

The Yamaska river rises in the county of Brome, and after a course of 90 miles, falls into the St. Lawrence at the head of Lake St. Peter. By the construction of these works and dredging through the shoals below and above the lock, the river was rendered navigable for vessels having a maximum draft of 4 feet to Belpoint, or Rapids de la Grosse Roche, a distance of 20 miles from its mouth.

The dam consists of a stone-filled crib, with plank sheathing on the upper side, 502 feet long, with a stone-filled close-faced crib abutment at each end.

During the fiscal year 1915-16, the sum of $1,500 was spent in salaries for the lockmaster and his assistant, and $449.25 was spent in opening the lock in spring, closing it in fall, storing the materials of the lock for the winter, repairing some of the machinery and buying new material.

SLIDES AND BOOMS.

The Dominion Government owns and operates slides and boom works, built to facilitate the passage of square timber, round logs, flatted and dimension timber, etc., on the river Ottawa and tributaries; on the St. Maurice river; the Saguenay river; and at Fenelon falls and Burleigh falls on the Trent river.

In the subjoined reports the superintendent engineers of the river works, Messrs. R. F. H. Bruce, F. X. T. Berlinguet and P. E. Amiot, give particulars relative to the construction, improvements, and repairs carried out under their supervision on government slides, booms, piers, dams, streams, buildings, etc., during the fiscal year; the expenditure incurred for staff, maintenance, improvements, etc.; the quantities of the various descriptions of timber that pass through their works, and other information of general interest and utility to lumbermen and the public at large.

(By R. F. H. Bruce, Superintendent Engineer.)

Ottawa, April 27, 1916.

E. D. Lafleur, Esq.,
Chief Engineer,
Department of Public Works,
Ottawa.

Sir,—I have the honour to submit herewith, the following report on the works under my charge, for the fiscal year ended March 31, 1916.

OTTAWA RIVER WORKS—ORDINARY REPAIRS, OTTAWA RIVER.

North Chaudière Station.—Iron bars were laid in the bottom of the upper slide, and on the face of the glance pier below outlet of lower slide. The bottom of the former slide was patched and at the foot of the lower slide a timber apron was placed to prevent damage to logs and timber, when the water in the Ottawa was at low pitch.

TRIBUTARIES OF OTTAWA RIVER.

Gatineau River.—The planking of the tops of the booms was repaired, about 3,000 feet, board measure, having been used in this work. At different places in the main boom, twenty-four screw bolts of 1¼-inch iron were set to bind the timbers together and thus strengthen the stiff sections. Seven ¾-inch chains, each 45 feet in length, were added to the boom above the Canadian Pacific bridge. Damaged portions of fencing along the government property were patched, the boats and scows were overhauled and painted, and defective planks on the roadways of the two bridges across the canals leading to Leamy's lake were replaced with new materials. The station house, storehouses and sheds were also kept in an efficient state of repair.

Madawaska River.—At the mouth of the Madawaska many of the chains in the retaining boom had worn the timber to such an extent that there was danger of the chains pulling through the wood. Fifty-three lengths of double and twenty-two lengths of single boom were taken out of the water, the defective ends were sawn off and new holes were bored two feet from ends of timbers for the chains. Screw bolts of one inch iron were placed at each end and at the centre of the double sections to hold the timbers together. Twenty-four new chains, ¾-inch by 17 feet, were placed in the boom instead of those discarded as unserviceable. The chains in general were thoroughly examined, and where defects were found, new materials were substituted.

At Arnprior the stop-log chains and irons were repaired, and portions of the bulk-head and guide booms were patched.

At Springtown two piers, one on the north and the other on south shore, both in connection with the retaining boom, were re-built. The former is 9¾ feet high and the latter 8¾ feet. The piers are 16 feet square and filled with stone.

At head of Calabogie lake, 12 chains ¾-inch by 11 feet, were provided for the boom at this place, and sufficient timber to build the tops of three of the piers was procured.

At High Falls three lengths of stringers, each 129 feet in extent, and four fingers or ties 25 feet long, were placed in the flat dam to south of slide entrance, and the face of the dam was covered with 2-inch pine 19 feet long, for its whole width. The main controlling dam had to be staunched to furnish sufficient water for the slide, when the river was low in the summer months. A supply of timber was purchased to re-build the upper portion of one of the large triangular piers above the slide entrance.

At Chain rapids, about 100 cubic yards of stone were deposited in the bulk-head piers and in the wing dam between the bulk-head and the north shore. Timber was also secured to build the tops of four of the piers supporting the guide booms leading to the slide.

Coulonge River.—At High Falls, the bottom of the slide, 60 feet in length, at entrance was re-laid. Seven new cross-sills were made to support the floor, which consists of two courses of 3-inch maple plank. A short distance below the intake of slide, where the structure is quite high, the foundation cribwork was raised two feet, and additional stone ballast was deposited in the crib to give increased stability. Seven bents, 18 feet high, were erected to carry the superstructure, and other bents which had shifted out of place were brought back to their former position in proper alignment. Several new longitudinal stringers were required and others were taken up, properly placed and used again. Sixty-five posts, 12 cross-sills and the sheeting in the sides and bottom of slide were all laid with new material. Three stay chains of ¾-inch iron were

set to steady the superstructure. These are from 29 to 33 feet in length, one end being attached to an anchor bolt in the side of the mountain and the other to the timbers of the slide. The portion of the slide thus repaired was 350 feet in length. At another place, in the third section of slide, repairs of a similar nature were made, extending for a length of 100 feet. The top portion of the cribwork was re-built, and 17 bents, 18 feet high, 17 cross-sills and 34 posts, together with the stringers, were all laid in the new, two stay chains were also placed in this section, these are 16 feet long and anchored in the same manner as those in the first section. The slide, which is 3,000 feet in length, was overhauled throughout, as posts, braces and sheeting had to be restored at many places. Nineteen bars of iron ¼-inch by 4 inches were placed at the curves in slide to protect the planking.

Black River.—At High Falls, a portion of the slide, extending from the outlet, 194 feet upward, was built over. Cross-sills, from 14 to 16 feet in length, were laid at 5 feet centres and rock-bolted wherever possible. The foot pier on eastern side is 35 feet long, 5 feet wide and 4 feet high, the upper end of the pier tapering off into side wall of slide. The other pier, on opposite side, is 170 feet long, 5 feet wide and 4 feet high, and forms the western side of slide. The bottom of slide is of 10-inch timber, sheeted with 3-inch maple plank and upon the latter are laid ¼-inch iron bars. The sides of slide, other than of cribwork, are of solid timber, supported in the usual way by posts and braces. In building this new portion the curves were very considerably eased, with a view of reducing the wear on the sides. At the outlet of slide, reefs of rock on the bed of the river were blasted well below the water surface to ensure a safe discharge for logs and timber. At the upper end of the new portion of slide, the timber sides, for a length of 187 feet, which were much worn, were hewn to an even surface and maple planks were used to fill up deficiency. New chains were placed in the guide booms at entrance to slide where defects were found.

Petewawa River.—At the mouth of the Petewawa, a new pier, 16 feet square, was built to support the retaining boom, the pier is 9½ feet high, in 3½ feet of water, and is protected in front by three fenders 8 feet long.

At First chute, some of the sheeting on the flat dam to north of slide entrance, which had become loose, was securely fastened.

At Second chute extensive repairs had to be made to the slide and dams in connection therewith. The superstructure of slide, from head piers downwards 210 feet, was re-built. A part of the foundation cribwork, at the upper end, had to be built with new timbers. This crib is 80 feet long, 6 feet wide and 5 feet high. There are 35 cross-sills, 20 to 22 feet in length, the distance from centre to centre being 6 feet. The slide is 10 feet at head piers in width, and is drawn in to 5 feet at end of new work, the height varying from 6 feet to 4 feet 10 inches. The planking in sides and bottom is 4-inch pine. The bottom of slide, between the head piers, had to be re-laid as some of the cross-sills had given out. Four stop-logs were made for the slide and some of the top timbers of the pier on south side had to be restored. A portion of the dam to north of slide had to be re-built; this was 150 feet in extent, and the stringers, ties and planking were all laid in the new. Three stop-logs were provided for the waste gate in this dam, and a large quantity of gravel was strewn along the foundation of the dam to make it as water-tight as possible. To south of slide the old waste gate opposite site of saw mill was sheeted with 4-inch pine plank.

At Bois Dur, part of the glance pier which was badly decayed had to be restored; it is 183 feet long, 13 feet wide and 4 feet high. The pier is composed of 10-inch timber, close work in front and open in the rear. The tops of two piers supporting the booms had to be repaired; one of these is 20 feet square and the other 18 feet by 20 feet; three rounds of timber were placed on each pier, making the new work 4 feet in height, and each pier was supplied with a snubbing post and the usual fenders. A new pier, 13 feet square and 4 feet high, was built at the feeding gap.

At Thompson's rapids, the expenditure was incurred in providing stop-logs for the gates and timber used in the retaining dam.

At Poplar chute, pine timber was laid on top of the pier dam adjacent to the chute and on the dam extending from the upper end of this pier to the shore, four rows of iron bars, ⅝-inch by 4-inch, were set to protect the face from abrasion.

At McDonald's station the main dam to north of slide had to be repaired. The old dam was 81 feet long, but the new one is 104 feet, as the work was carried across the old slide entrance to the shore; the dam, which varies in height from 7 to 8 feet, is of pine timber and the ties are set at eight feet centres. In removing the old sheeting from the dam, care was taken that it might not be damaged, so it could be used again in the work. A course of pine plank 2 inches thick was laid over the old sheeting, breaking the joints, to turn all the water possible into the slide. At outlet of slide the cribwork under the floor was patched. Five pieces, 22 feet long, were laid, extending under the foot piers, the supporting ties being laid two to a course. At the head of the guide boom, on the north side, a pier was built to hold the boom; it is 12 feet square and 12 feet high, containing a snubbing post. Rip-rap was placed at back and at both sides of the pier to prevent scouring of the bank in season of high water. Three lengths of timber were furnished for the guide boom on north side, 6 chains were renewed and an ash spindle was set at entrance to slide for boom on north side.

SLIDES AND BOOMS GENERALLY.

The sum of $2,000 was set aside from this appropriation for use of repairs to Ottawa river works, $1,200 for Coulonge river and $800 for Black river.

These amounts were expended in purchasing timber, plank and other materials for repairs to the slides, booms and piers on these two rivers, as described in the foregoing report.

Last spring the water in the Ottawa and its tributaries was very low in the early season; it commenced rising in the fore part of April and continued doing so until May 13, when it reached its maximum height for the season, which was considerably below that of other years. On May 18 it started to fall, but was checked at several different times during the summer, owing to heavy rain-falls, and altogether the season was rather favourable for driving purposes.

In submitting the foregoing report, I have the honour to be, sir,

Your obedient servant,

R. F. H. BRUCE,

Superintending Engineer Ottawa River Works.

STATEMENT SHOWING EXPENDITURE FOR REPAIRS TO OTTAWA RIVER WORKS FOR FISCAL YEAR ENDED MARCH 31, 1916.

Name of Work.	Province.	Electoral District.	Expenditure April 1 to November 30, 1915.		Expenditure 1st December, 1915, to March 31, 1916.		Expenditure April 1, 1915, to March 31, 1916.	
ORDINARY REPAIRS.			$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ottawa River—								
North Chaudière station	Quebec	District of Wright		201 94		23 76		225 70
Tributaries of Ottawa river—								
Gatineau river	Quebec	District of Wright	283 43		219 83		503 26	
Madawaska river	Ontario	South Riding County of Renfrew	1,876 12		2,747 60		4,623 72	
Coulonge river	Quebec	County of Pontiac	2,554 33				2,554 33	
Black river	Quebec	County of Pontiac	1,553 73		236 75		1,790 48	
Petawawa river	Ontario	North Riding County of Renfrew and Co. of Nipissing	3,878 87	10,146 48	2,754 04	5,958 22	6,632 91	16,104 70
								16,330 40
SLIDES AND BOOMS GENERALLY.								
Coulonge river	Quebec	County of Pontiac	461 25		738 73		1,199 98	
Black river	Quebec	County of Pontiac	373 34	834 59	426 46	1,165 19	799 80	1,999 78
		Total						18,330 18

JOS. KENT,
Accountant.

April 27, 1916.

St. Maurice River Works.

(By F. X. T. Berlinguet, Superintending Engineer.)

Three Rivers, October 24, 1914.

Eugène D. Lafleur, Esq.,
Chief Engineer,
Department of Public Works,
Ottawa.

The St. Maurice river flows from west to east, about 350 miles, waters the whole of that vast territory, and is one of the largest tributaries of the river St. Lawrence.

During the commercial season 1915, the fluctuation of the water level, when floating logs, has been fairly good; during the season 11,602,791 logs have passed through the different assorting gaps along the river and have reached the different saw mills.

At the low-water season, after the drives had passed, the foundation of the various river structures were examined and the most urgent repairs were performed; all the booms were put in winter quarters in good condition for the next season, and ready for the opening of the commercial season 1916. This work has been done for sixty-one years, by day labour, by the staff. The amount expended during the last year is as follows:—

Staff	$16,629 70
Alligators	12,386 08
Working expenses	10,750 33

An amount of $13,917.15 was expended during the year for the following works:—

Grandes Piles.—Inspection and maintenance of booms and piers.

Ste. Flore.—Two hundred cubic yards of stone placed in piers; 2 piers completed; 1,000 feet 5-ply booms repaired.

Grand'Mere.—Maintenance and inspection: 4 concrete heads erected on piers.

Shawinigan Falls.—Seven hundred and fifty-seven feet of 5-ply booms repaired and 2 anchor piers built.

Trois-Rivières.—Maintenance and inspection.

I have the honour to be, sir,
Your obedient servant,

F. X. T. BERLINGUET,
Superintendent Engineer, St. Maurice River Works.

Report on the Saguenay River Works.

(By P. E. Amiot, Superintending Engineer.)

SAGUENAY BOOMS.

Saguenay boom is situated 6 miles from Chicoutimi town.

The pier, 20 feet square by 20 feet high, which was prepared and ready to be sunk last year, has been completed during the present fiscal year; it is a common round-timber structure, ballasted with stone and sheathed with 3-inch deals. The offices on the south side and the guardian's house on the north side of the river were painted; 20 pieces of boom, 80 feet in length by 3 feet in width, have been recovered with 3-inch deals, and 6 new pieces, 60 feet in length, have been built.

The work was carried out by day labour at a cost of $2,900, was started April 1 and completed March 31.

TRENT AND NEWCASTLE.

Burleigh Falls, in the county of Peterborough, is situated at the west end of Stoney lake, on the Trent canal, about 22 miles from Peterborough city.

The department collects tolls in connection with the dam and slideworks maintained at this point to facilitate the handling of logs.

These works have been in existence for a considerable number of years, during which period only limited repairs have been made, consequently an advanced state of decay existed, making necessary practically complete reconstruction. This was undertaken in 1913-14, when a portion of the works were rebuilt, as follows: Rock-filled gravity dam, 140 feet long, maximum height 6 feet; crib, 106 feet long, 8 feet wide, 8 feet high; new crib, 48 feet long, 8 feet wide and 6 feet high. Certain general repairs to cribs and booms were also effected.

From November 16 to December 31 the following work was accomplished:—

North Side.—Cribs, 8 by 14 by 6 feet high, and 14 by 14 by 6 feet high, rebuilt of 10 by 10 timber and loaded, above E. L. W. L. Gravity dam, 75 feet long, maximum height 9 feet, built of rock-bolted framed-bents of 10 by 10 timber at 8-foot centres, with four horizontal 10 by 10 stringers and 3-inch plank sheeting. Plank walk, 20 by 4 feet wide, over sluice, rebuilt and six 10-inch by 10-inch by 18 feet stop-logs framed and placed.

South Side.—New end rebuilt on crib, 6 feet high, 13·5 feet long (close laid 10 by 10). Two vertical partitions rebuilt, 6 feet high, 8 feet long, of 10 by 10 timber, drifted to each other and rock bolted. Two-inch plank walk, 60 feet long by 4 feet wide, on 10 by 10 stringers rebuilt, and 10 by 10 stop-logs in three sluices renewed and repaired.

In both parts of this work it was necessary to remove the old structures and excavate a considerable quantity of solid rock and earth to secure good foundations for the new structures.

Expenditure during the fiscal year is $1,080.96.

BRIDGES AND ROADS.

It may be stated that, in the older provinces of the Dominion, the Federal Government has confined itself, as a rule, to take under its exclusive control and make provisions towards the construction and maintenance of important interprovincial road bridges and bridges required across waterways.

In the sparsely settled districts of the Northwest Territories, the Government of Canada has undertaken to provide for the erection and maintenance of ordinary road bridges over large streams; bridges that are urgently needed to afford uninterrupted communication through trails and highways of national importance, which neither the

municipalities to be more immediately benefited by the structures nor the territorial authorities most directly concerned, could be expected to erect and maintain at their sole expense.

During the last fiscal year, works have been executed on the following:—

ONTARIO AND QUEBEC.

Bridges at Ottawa, and Roadway and Bridge Approaches between Ottawa and Hull.

Ordinary Repairs.

Laurier Bridge.—The steelwork of this bridge received a coat of paint, after all rust, scale and dirt had been thoroughly removed, and portions of the handrail, which were much corroded in places, were replaced by new sections.

Union Bridge.—The present Union (Interprovincial) bridge, across the Ottawa river, at the Chaudiere, built in 1889, is a through span, 234 feet 6 inches, of pin-connected whipple trusses, spaced 43 feet centre to centre and resting on masonry piers. It supports double car tracks and has a 6-foot sidewalk.

During the period May 21 to June 9 certain alterations and repairs were made to this structure, by the Dominion Bridge Co., Ltd. Members centering at sway-braced panel joints of upper chord were pressed back to alignment and spacers inserted; connections between lower struts of sway-bracing and vertical posts were considerably stiffened; adjustable members were tightened; rods of sway and upper wind bracings were secured together at intersections; many rivets and bolts were replaced in fences; pier members were cleaned, oiled and painted. These repairs and improvements eliminated rattling and the worst vertical vibrations.

Traffic signs were erected, limiting the speed of travel, etc., over this structure, and parties responsible for heavy trucking were notified as to the limitations of the bridge.

A heavy accumulation of ice was removed, February 25 to March 1, as well as considerable snow, which had encumbered the bridge during this period.

Expenditure during the fiscal year, $487.78.

The roadway of the Union bridge was kept clean and the planking was patched where required. A supply of red pine plank was provided to renew the roadway when this becomes necessary.

Chaudiere Slide Bridge.—The roadway of this bridge was cleaned frequently during the summer, as were also the gratings and waterways. A section of the granolithic sidewalk, on eastern side at southern end, was laid in the new, as it had become badly cracked owing to expansion and contraction of the iron work which supports it.

Roadway and Bridge Approaches between Ottawa and Hull.—This thoroughfare was cleaned often. The steel bracket and floor beams of sidewalk and the girders and buckle plates supporting the roadway adjacent to the Ottawa Electric Railway viaduct were all painted. Several beams had given out through corrosion and new ones were substituted. At both ends of the northern arch the masonry wall on eastern side had bulged so much that it threatened to collapse so concrete walls were built to retain the masonry. The wall at the northern end is 62 feet long, 5 feet wide at base and 1½ feet at top, the height varying from 14 to 19 feet. The southern wall is 82 feet long, 3 feet wide at base and drawn in to 1 foot at top, the average height being 12 feet; both walls are well reinforced with iron bars. The iron standards of the guardrail on western side of roadway were straightened, the iron piping was adjusted and the railing was painted. The sandstone pavement was repaired at different places, and the iron gratings and weeper holes were kept clean.

During the winter surplus ice and snow were removed from the roadways and sidewalks of all the bridges and causeway leading from Ottawa to Hull, and when there was any danger of persons slipping on the icy sidewalks, sand was spread over the walks to prevent such an occurrence. In springtime, in accordance with usual custom, gutters were cut and the gratings were opened up to carry off the surface water on the roadways.

STATEMENT SHOWING EXPENDITURE FOR REPAIRS TO BRIDGES FOR FISCAL YEAR ENDED MARCH 31, 1916.

Name of Work.	Province.	Electoral District.	Expenditure April 1st to November 30, 1915.		Expenditure December 1, 1915, to March 31, 1916.		Expenditure April 1, 1915, to March 31, 1916.	
Bridges at Ottawa, and Roadway and Bridge Approaches between Ottawa and Hull—			$ cts	$ cts	$ cts	$ cts.	$ cts	$ cts
Laurier bridge	Ontario	City of Ottawa	654 46		61 46		715 92	
Chaudière Slide bridge	Ontario	City of Ottawa	302 75		273 23		575 98	
Union bridge	Ontario and Quebec	City of Ottawa and district of Wright	199 88		978 39		1,178 27	
Roadway and Bridge Approaches between Ottawa and Hull	Ontario and Quebec	City of Ottawa and district of Wright	1,561 61	2,718 70	968 21	2,281 29	2,529 82	4,999 99
		Total for Ottawa City Bridges						4,999 99
Dominion Traffic Bridges—								
Pond Creek bridge	Quebec	District of Wright	99 34				99 34	
Portage-du-Fort bridges	Ontario and Quebec	South Riding County of Renfrew and county of Pontiac			169 25		169 25	
Bryson bridge	Quebec	County of Pontiac	975 46				975 46	
Rapides-des-Joachims bridges	Ontario and Quebec	North Riding County of Renfrew and county of Pontiac	2,490 22	3,565 02	4 50	173 75	2,494 72	3,738 77
		Total for Dominion Traffic Bridges						3,738 77

JOS. KENT,
Accountant.

April 27, 1916.

RAPIDES-DES-JOACHIMS.

The wooden roadways of both spans across the slide channel, also one of the short spans across the main channel, were altogether renewed; the floor beams are 3 inches by 12 inches by 14 feet pine, and the bottom floor is 3-inch pine. A course of 2-inch pine was placed on all the spans, giving a width of 12 feet for vehicles. The wheel guards are of 6-inch square pine, and are placed at both sides of the bridges.

The bridge across the main channel consists of three spans, a total length of flooring of 438½ feet, while the bridge over the slide channel has two spans, with a total length of 309 feet of flooring.

The roadway approaches to both bridges were repaired, about 200 cubic yards of filling having bene placed, principally adjacent to the planking on the bridges, where the gravel had been washed away.

BRYSON BRIDGE.

The span at the eastern end of the Bryson bridge, which is supported by timber-work piers, had crushed through the bearing timbers, broken the ties underneath and threatened to fall into the river. Traffic was suspended and the necessary repairs were immediately undertaken. Timber bents, resting on the stone filling in the piers, were erected, the span was jacked back to place and new corbels were set for the bearing plates. The bents built in the piers are over 30 feet in height and are of 10-inch pine timber. Two courses of new timber were placed on the centre peir, and new supports were provided to carry the girder span on the eastern approach. Three hundred lineal feet of 6-inch square cedar wheel guards and 3,000 feet, board measure, of 3-inch plank were laid on the roadway. Owing to the height of the bridge piers, nearly 40 feet above low water, and the restricted space in which to carry on the work, great care had to be taken in making the repairs to guard against mishaps.

PORTAGE-DU-FORT BRIDGES.

The approaches to the two bridges at Portage-du-Fort, where the roadway had been washed away, were repaired. At the southern end of the bridge across the main channel, 140 cubic yards of stone were laid for a foundation, with a top dressing of fine stone amounting to 40 cubic yards. At the northern end of the same bridge, like quantities of similar materials were laid. At the southern end of the smaller bridge, 30 cubic yards of stone and 10 cubic yards of dressing were placed. The guard fence at southern end of main bridge was renewed for a distance of 60 feet, four new posts being required, while at the northern end two panels, each 16 feet in length, had to be restored.

POND CREEK BRIDGE.

The top course of planking on the roadway of this bridge was badly worn and had to be patched in order to save the lower course; the material used for this purpose was red pine, 3 inches in thickness.

CHAPEAU BRIDGE.

Chapeau, a small village in Pontiac county, is located on Allumette island, across the Ottawa river from Pembroke, Ont.

In the early 70's, a wooden traffic bridge was built, by provincial grant, across the Culbute channel of the Ottawa river at Chapeau. The old structure was replaced by a modern bridge, 40 feet upstream, in 1910-12.

During the month of June, six steel cover plates were added to the bridge, to overcome the trouble which had been met with at expansion joints; later, 56 loads of gravel were placed on the approach roadways.

Expenditure during the fiscal year, $128.43

HAWKESBURY BRIDGE.

Hawkesbury, a town in Prescott county, is located on the Ottawa river midway between Ottawa and Montreal.

During the past few years, considerable preliminary work has been done in connection with the selection, examination and testing of site and right of way for the proposed Interprovincial bridge across the Ottawa from Hawkesbury, Ont., to Grenville, Que.

During the past year, further detail drawings were prepared in connection with the superstructure of this bridge, for which all plans and specifications are now ready, except details of lighting system, which has not been fully developed.

The project is for a high-level deck bridge and trestles of steelwork, with reinforced concrete roadway, 20 feet wide, and two 4-foot 3-inch sidewalks across the Ottawa river and Grenville canal, 2,288 lineal feet; stone and earth-fill approches, 838 feet; two roadway bridges, 42-feet 6-inches span, and 1,170 lineal feet of improved roadway in John street, Hawkesbury, heretofore maintained by the Hawkesbury Lumber Co.

NORTH TIMISKAMING BRIDGE.

North Timiskaming, a village in Pontiac county, is located at the mouth of the Quinze river, two miles below the head of navigation on Lake Timiskaming and one mile east from the boundary of the province of Ontario. This is the outlet of a prosperous farming district, which, owing to the dangerous condition of the river in the spring and fall, as well as the growing traffic, will be greatly benefited by the traffic bridge under construction.

The contract for bridge substructure and approach roadways was entered into with Messrs. Lynch, Peckham & Gorman, May 9, 1914. Since March 31, 1915, the approaches and main pier above the footing were built, and bridge seats, etc., finished. It was found necessary, during the course of construction, to supplement the wash borings, and the foundations for piers and abutments were, of necessity, subjected to slight alterations. Riprap was placed around piers and approaches to offset scouring. This entailed deeper foundations and additional quantities.

Contract plans and specifications have been prepared for superstructure and tenders called for.

Expenditure during the fiscal year, $14,115.84.

GRAND RIVER BRIDGE.

Grand River bridge is a highway bridge connecting the east and west banks of the Grand river at the village of York, in the County of Haldimand. It is about midway between the villages of Caledonia and Cayuga, the nearest railway station. This bridge consists of four steel trestle spans, 105 feet long each, supported by 3 stone-filled cribs and concrete piers and two masonry abutments, a timber trestle, 166 feet long, at west end of steel span, and an earth and gravel approach to the west of trestle, 656 feet long.

The bridge was constructed by the Dominion Government in 1891.

The work of repair was commenced August 2 and was completed September 25, and consisted in repairing and renewing decking where required over the steel span section; repairing and renewing decking as required over timber approach, renewing railing on both sides, with exception of the posts on extreme west end of timber approach; cap timber was renewed and dump boards were replaced; the hand-railing of the highway approach, with the exception of the posts along both sides of the highway at west end was renewed and 24 new posts were placed; approach to bridge was repaired by surfacing with gravel, and the fences were painted.

The expenditure amounted to $623.29.

GRAND LAKE NARROWS.

C. N. O. Ry. Bridge.

Application was made and plans submitted by the Canadian Northern Ontario railway, under the Navigable Waters Protection Act, for proposed bridge to be built across Grand Lake Narrows, township of Barron, district of Nipissing, Ont., 127 miles west of Ottawa. The site was examined and application approved by Order in Council of September 11, 1914. This consists of rock-fill embankments, aggregating 580 feet, with 70-foot through plate girder span on framed bent trestle abutments. The permanent structure was completed in 1915.

MUSKRAT RIVER (MEATH STATION).

C. P. Ry. Bridge.

The Canadian Pacific Railway Company proceeded with the construction of their new bridge across the Muskrat river in order to do away with the existing 600-foot trestle, built skew to the stream over twenty years ago, and which intersects the highway bridge (O. C. June 15, 1912).

Piles were driven to a great depth for the footing of concrete abutments; during the course of placing the ballast fills to said abutments, the work settled down and virtually disappeared, while, at the same time, the river bottom on either side was raised several feet. As the new line for this diversion is built through marshy soil, the company found it necessary to purchase additional land and cut a new channel for the river, to which the steel span, plate girder, 87 feet 2 inches long, will be removed. This new channel is located some 900 feet from the originally proposed location of bridge, and is to be maintained by the company.

Very little progress has been made on this project since the revised location was authorized (O. C. May 4, 1915).

MATAPEDIA MILITARY ROAD.

Matapedia military road is situated partly in Rimouski and Bonaventure counties, in the valley of Matapedia.

The road starts from Ste. Flavie, on the St. Lawrence river and extends to Cross Point on the Restigouche river, 110 miles from the starting point. The construction of this road began in 1857, and was completed in 1867, at a cost of $187,870.85. This road was repaired and kept in good order by the Government, as a military road. After the construction of the Intercolonial the greatest part of this road was abandoned to the different municipalities along the road. There remains a portion of it, from Beaurivage to Millstream, a distance of 19 miles, where there is no municipality.

From Confederation to the year 1913, a sum of $34,048.43 was expended for reconstruction, and the expenditure for maintenance and repairs was $13,650.09.

The work done in 1915-16 consisted in the repairing of the road from Millstream to Ruisseau Clark, inclusively; several bridges and culverts have been built, especially at Ruisseau Clark, where a bridge, 88 feet long by 18 feet wide, was entirely reconstructed.

The road was cleared of trees, brush and stumps and a new roadbed was made.

Expenditure for the fiscal year is $2,492.55.

MANITOBA.

HEADINGLY HIGHWAY BRIDGE.

The rural municipalities of Assiniboia and Charleswood, Macdonald county, united in building a pile highway bridge across the Assiniboine river, a few hundred feet below the Canadian Pacific Railway bridge.

Neither a swing span or opening pontoon was provided for navigation. An effort will be made to have the municipalities provide this next season.

ALBERTA.

BOW RIVER BRIDGE.

The steel bridge crossing the Bow river, in the town of Banff, Rocky Mountain park, was inadequate to carry the heavy tourist and other summer traffic, and it has been found necessary to arrange and design another bridge to occupy this position. This steel bridge was removed to a temporary position, some 60 feet down stream from the line occupied, so that the supporting piers would be clear of all excavation and obstruction to the work of building the new reinforced bridge.

It was considered necessary, owing to the high water anticipated this coming spring, to sheet around the exposed portions of piers and abutments as a precaution against floating débris.

This work was carried out, by day labour, at an expenditure of $126.45.

EDMONTON BRIDGE.

The Edmonton bridge crosses the North Saskatchewan river, between Edmonton and Strathcona (which now forms a part of the city of Edmonton). It is 700 feet long between abutments, and consists of four 175-foot spans. The roadway is 17 feet wide, and there are two sidewalks each having a width of 7 feet. The bridge is constructed with steel superstructure in the form of Pratt Trusses, of seven 25-foot panels each. The approximate weight of bridge, per lineal foot, is 2,420 pounds. The piers and abutments are of concrete, approximately 43 feet high from the river bed. These are erected on concrete footings deposited in caissons in which bearing piles were driven before the concrete was deposited.

At the end of June, 1915, a disastrous flood occurred in the North Saskatchewan river, the water rising on June 29 to a height never before known in Edmonton. At this bridge the water partially covered the lower cord, giving a maximum rise, from low-water level, of 45 feet. The structure was not damaged in any respect by the flood, as was found by a close examination following the subsidence of the water. It was found, however, that considerable of the banks were washed away on each side of the river in the vicinity of the abutments and it was considered advisable to protect these abutments by putting in protection work around the north and south abutments.

A large amount of loose rock was piled around the toe of the sheeting to prevent the water from causing erosion. This protection work is constructed at a height sufficiently great to allow the ice, when running out in the spring, to run by without touching same.

The expenditure for the fiscal year is $2,398.35.

CEMENT LABORATORY.

Ottawa, August 5, 1916.

E. D. Lafleur, Esq.,
Chief Engineer.

Sir,—I have the honour to submit herewith the annual report of the laboratory for testing materials for the fiscal year ending March 31, 1916.

Owing to the great demand for economy during the present European struggle there has been no new addition to the staff. Mr. J. Evans was transferred from the physical testing to the clerkship, and Mr. E. Viens was nominated director of the laboratory.

The following tables give the number of samples received. All of those samples were physically and chemically tested according to specifications.

CEMENTS.

Submitted by—	
Engineer's of the Public Works	3,198
Deputy Minister of Public Works	10
Chief Architect of Public Works	2
Railways and Canals	1
Marine and Fisheries	16
Outside contractors	30

SAND AND GRAVELS.

Submitted by—	
Engineer's of the Public Works	18
Marine and Fisheries	1
Unmarked	5

MISCELLANEOUS SPECIMENS.

Submitted by—	
Maritime Construction Company, granite	2
Chief Architect, Public Works, sash chains	2
Railways and Canals, stone	1
J. B. McRea, welded steel	17
Mr. Craig, bricks	3
Mr. Wright, crushed stone	1
Unmarked, concrete	4
" rock	3
Number of samples that failed—	
Cement	24
Concrete	4
Sand and gravel	2

I regret to announce that after over thirty-two years of good and faithful service in the department, Mr. George E. Perley, director of the laboratory, died on March 16, 1916.

I have the honour to be, sir,
Your obedient servant,

E. VIENS,
Director.

APPENDIX "A."

OTTAWA RIVER STORAGE.

OTTAWA, May 22, 1916.

E. D. LAFLEUR, Esq.,
Chief Engineer,
Department of Public Works,
Ottawa.

SIR,—I have the honour to present my annual report on the progress of work, Ottawa River Storage, from April 1, 1915, to March 31, 1916.

At Timiskaming dam, the rock rip-rap work ceased with the high water of spring-time, but the quarry face was squared up and some holes drilled ready for blasting. The tracks from the quarry across the island were put in order and ballasted, and by June all the working force was discharged. For safety, a railing of iron piping was placed along the downstream side of the deck of the Ontario and Quebec sluices.

To satsify the Lumbermen's Association, trial borings were made by Mr. H. M. Davy, about the site of the dam and across the lake at the head of the islands; some further borings were taken for a distance of three miles downstream, but in no case was bed rock found, although depths of 100 feet were reached; this was expected, as indicated by borings made before the dam was commenced.

The spring freshet was not excessive and was passed by taking out the stop-logs evenly across both the Ontario and Quebec sluices; it was only necessary to lower the crest from 6 to 8 feet. All sluices were closed in July and have remained so until the end of the year, the log-pass and 45-foot opening serving to pass all the flow. About 3,000,000 logs passed through the dam during the season without accident. The reservoir was to full working level from middle of May until end of July, then storage was given continuously till end of September. The autumn rains were heavy and the reservoir rose again to nearly full level in November, where it stood to end of December.

About the beginning of September the work of placing rip-rap was begun again and 7,000 cubic yards have been placed downstream of the Ontario sluices to refill the scouring. There is now a bank of rock extending 120 feet downstream from these piers and the whole way across, 400 feet. The top of this bank is level with the sluice sills and its depth is from 10 to 20 feet.

On the Quebec side a platform of logs was made across the log-pass, upon which a steam derrick was placed, and from this, rock from the quarry has been deposited downstream from the sluiceways in the strong current. This work was under way by December 1 to the end of the month, and 1,500 cubic yards of rock had been deposited. Quarry waste has been placed on the face of the rock fill that closed the wash-out next to the island to staunch the interstices and is showing good effect.

Further protection was placed along the downstream side of the Quebec sluices from January to April. The current is too swift to allow of making soundings, but two large rocks with floats attached were dropped in and showed the filling to be up to sill level. Stone was swung out 30 feet below the dam, then dropped into the current, which carried it another 20 feet, so that the riprap may be said to extend 50 feet downstream.

A moveable timber gravity dam was constructed during December to check the current in the log-pass while placing riprap below, also to try out a method of closing

the wide opening, owing to the constant demand of power owners. It consisted of a crib, 40 feet long by 16 feet wide and 6 feet high, which was wedge-shaped. This was floated to place and the idea was to tip the crib and let the weight of water sink it down to the sluice sill platform. Unfortunately the cables, ⅝-inch steel, snapped with the stress and the crib was lost.

The second crib was built about half the size, being 20 feet long, 16 feet wide and 7 feet high. It was successfully paid down by wire cable to its place and smothered under the swift water as expected, but the cables cut through the timbers in a few hours.

The third crib was of the same size and still remains in place, so it is not certain that the wide opening can be controlled, if desired. The flow was reduced by this means about 2,000 cubic feet per second, while the lake stood at elevation 582.

For closing this log-pass, a number of designs have been suggested, the most complete being a cylindrical steel girder, 45 feet by 4 feet diameter, designed by Mr. Fortin, of this department. The stress of this 45-foot dam, however, would be too great for the two side piers and enlarging them would be expensive and risky. A gravity type dam, therefore, bringing all the stress upon the sill platform, is essential.

The expenditure of water required from Timiskaming reservoir was very moderate this year, only 16,200 second feet in January, 14,300 second feet in February, and 14,700 second feet in March. No shortage was experienced at Chaudière owing to the ample precipitation during the summer, but the effect of storage is noticeable January to March.

A table showing the average monthly surfaces of each reservoir is submitted. There is also a table showing average monthly flow at Chaudière falls from 1906 to 1911, before storage was inaugurated, and during 1915-16, when storage was in operation. Compare January to March, 1907 and 1911 with 1916.

AVERAGE SURFACE HEIGHTS OF RESERVOIRS FOR PAST YEAR.

Date.	Quinze.	Kipawa.	Timiskaming.
	Elevation.	Elevation.	Elevation.
1915.			
April	853·2	875·5	577·7
May	856·6	876·9	585·7
June	856·8	878·5	587·4
July	854·9	879·0	587·6
August	854·0	878·6	585·0
September	853·6	878·2	582·1
October	855·4	878·9	583·9
November	855·7	880·1	585·0
December	855·8	880·2	586·5
1916.			
January	854·9	880·7	585·5
February	854·3	879·6	584·7
March	853·6	878·3	582·7

AVERAGE MONTHLY FLOW AND PRECIPITATION AT CHAUDIERE.

Date.	1906-07 C.F.S.	Rain and Snow.	1907-08 C.F.S.	Rain and Snow.	1908-09 C.F.S.	Rain and Snow.	1909-10 C.F.S.	Rain and Snow.	1910-11 C.F.S.	Rain and Snow.	Controlled 1915-16 C.F.S.	Rain and Snow.
		Inches.		Inches.		Inches.		Inches.		Inches.		Inches.
April	42,100				46,200	1·3	59,300	2·8	65,000	1·4	30,300	1·41
May	85,900				132,500	4·0	120,500	4·5	68,500	2·4	48,800	2·16
June	83,600				127,900	1·0	112,700	1·6	59,900	1·6	51,900	2·91
July	46,100				58,900	2·3	57,600	5·2	33,500	1·9	38,300	2·46
August	19,400				30,700	1·4	46,700	3·0	35,300	5·0	29,400	5·53
September	11,500	No record	No record	No record	16,200	1·4	33,200	2·4	24,800	1·6	22,800	3·57
October	10,900				9,800	1·4	31,100	1·4	27,900	3·3	25,100	2·20
November	13,400				9,500	1·5	33,200	2·4	36,100	1·6	23,300	2·27
December	13,300				9,300	3·1	33,500	2·5	29,200	1·1	24,700	2·45
January	7,700				18,400	3·3	24,200	2·1	16,900	1·9	23,800	3·84
February	8,000				20,600	2·2	19,100	1·1	10,800	1·9	27,300	2·32
March	12,500				22,800	3·9	25,800	1·1	8,700	1·7	23,900	2·58
Yearly totals						26·8		30·1		25·4		33·70
Yearly means					41,900		49,800		34,700		30,800	

Kipawa reservoir was opened January 22, 1916, and lowered from elevation 881·0 to 878·5 by March 30. It began to rise April 1 and is now, April 30, elevation 881·5.

Many of the streams entering Kipawa and the other reservoirs will run in without control, as lumber dams have been left open owing to the curtailment of logging operations.

At Gordon Creek dam, Kipawa reservoir, about $100 worth of cribwork was placed along the side of the canal, below the sluiceway, to prevent fragments of rock falling in from the side.

Quinze dam has not been used for storage yet, pending settlements for the area that will be inundated. By decision of the department, however, the reservoir has been held all summer at 15 feet below working level, or average high water under natural conditions.

About 250,000 logs passed through the dam early in the season. These were towed down the lake in booms, which were opened at the islands about a mile above the dam and the logs were allowed to float loose down into our lead boom. A strong wind, together with the cross current, caused the logs to press abnormally on the booms, which finally parted. About 25,000 logs piled in a jam above the south part of the sluiceway and had to be removed at the department's expense. This autumn heavier piers have been built and double booms strung.

The five miles of road leading into the dam have been reparied again, in a rough way, during the summer. The corduroy over the swamp sections is becoming bad after five years, and proper drainage means rock cutting at large expense. Material suitable to build up this road would have to be hauled a couple of miles at least.

During the winter, two large piers for booms and several sunken piers have been built and placed. For this work, a new scow has been built, as the ice in the current was not strong enough to support loaded piers.

In connection with metering the Ottawa river and its tributaries, over seventy gauges are read daily between Quinze and Montreal. Each week a post card is sent to this office by each gauge reader, and the daily readings are then posted up in a specially ruled book. The more important ones are plotted on cross-section paper, so that a graph of surface elevations is available for inspection.

No meterings have been necessary in the Quinze rapids, as the flow did not exceed 30,000 c.f.s., and the discharge curve is complete up to this point from last year's work.

Below Timiskaming dam constant meterings have been made at the cable station, and the same party at Gordon Creek and the Georgian Bay summit, which includes Talon chute, Menard's bridge, Kai-bus-Kong river and Mattawa river. The DuMoine river is also metered by this party and all the upper river gauges are supervised by them.

The Quio metering party make measurements of the main river, at that place, and of the Black river, the Coulonge, the main river at La Passe, the Mississippi and the Quyon river.

At the Ottawa rating station, Dow's lake, metering instruments are constantly being checked for wear of points and the retardation due to the contact spring against electrical connection. This party also measure the flow of the main river at Kettle island, and at Besserer's Grove, and the Rideau and Gatineau rivers.

At Carillon, the party meter the main river at that place and the Rouge, the North and the Rigaud river. In summer, this party is located at Bout de l'Ile and does the St. Lawrence there, as well as the Ottawa channels and the tributaries. During the winter, there is too much frazil ice in the St. Lawrence to permit of metering.

For some time measurements of the St. Lawrence flow were made at Cedars, Que., but the conditions were unsatisfactory and since the power-house there has been in operation it has been necessary to find a new station. After investigation and trial Mr. Johnson selected one at Iroquois, about fifteen miles below Prescott, Ont. This would be seventy miles above Cedars, or, say, seventy-five miles above the junction of

the Ottawa, and it is found that only two per cent has to be added to the Iroquois flow. As the Iroquois section has been under measurement since last May and has been found very convenient, this arrangement is considered very satisfactory. The current is strong, and in the beginning accidents occurred, resulting in the total loss of one meter, but since then the work has gone very smoothly under Mr. LeClair's management.

Mr. Johnson makes the following statement of the work carried on during the months of January, February and March last.

At all stations gauge readings and precipitation and temperature observations have been carried on as usual. Meterings were taken at various intervals on the following rivers and at stations on the Ottawa river:—

	No. of Meterings, Jan. 1 to Mar. 31.
C. W. Thomson and Party—	
Timiskaming (Ottawa river)	22
Gordon Creek	13
Kai-bus-kong Creek	1
Talon lake	2
Amable du Fond	2
Mattawa river	2
Dumoine river	..
Petawawa river	4
	46
Geo. Gallinger and Party—	
Black river	1
Coulonge river	1
La Passe (Ottawa river)	1
Bonnechere river	3
Madawaska river	3
Mississippi river	4
Quyon (Ottawa river)	36
	49
Vicinity of Ottawa by Messrs. J. Beauchemin and W. F. Coutlee—	
Rideau river	4
Gatineau river	1
Besserer's Grove (Ottawa river)	2
	7
W. J. Leclair and Party—	
Lievre river	..
Rouge river	6
Carillon (Ottawa river)	35
North river	18
	59

Our records show that Quinze lake dropped from elevation 855·3, on January 1, to 883·3 at the end of March last, being about 2·5 feet above the winter average since 1908-9.

The minimum monthly flow out of Quinze lake during the winter came to 49,000 c.f.s., which is double that of the previous winter, and nearly 1,000 c.f.s. greater than the average for the past six years.

Precipitation observations give a fall of 14·75 inches at the Quinze during the past four months. This is 6 inches greater than the average for 16 years of records, at Haileybury, up to 1911, and the four last years at the Quinze.

Timiskaming lake dropped from an elevation of 586·3, on January 1, to elevation 581·2 on March 31. This is over 7 feet above the average winter level of the lake during the last nine years. An average flow of over 14,000 c.f.s. was maintained out of the lake during these months, being 3,000 c.f.s. above the average during the nine years in which records have been kept.

Our precipitation records at Timiskaming show a fall of rain and snow amounting to 12 inches, which, like the foregoing figures, is considerably greater than any past records for the winter months, being 4 inches above the average.

The Mattawa river is now being metered at least once a month at Talon lake and at the mouth. Meterings have been started again on the Amable du Fond river, at Booth's farm, about nine miles from the Eau Claire.

The flow from all the tributaries of the Ottawa has been greater than the average for the years of which we have kept any record.

As soon as the flow reaches about 20,000 c.f.s. at the Quinze it is proposed to send Mr. Trudel up to start a system of meterings. Mr. Trudel should remain there until the high water is past and the flow is down again to the former amount; while in that vicinity he will also meter the Montreal river.

Mr. Kirkpatrick can carry on the Timiskaming metering until Mr. Trudel returns, and at the same time do the tributaries to the east and south.

It may be necessary, during the high water period, to have a party from this office assist in the outdoor work, as the Quyon party will be kept busy between La Passe and the Quyon.

During the winter months a catamaran has been constructed at the Quyon by building two row boats suitable for the work and fastening them together; the men did this work in their spare time. It has been found impossible to rent suitable boats for any length of time at a fair figure at most of our stations; therefore, whenever it is possible the boats are either purchased or new ones built.

The Britannia bay records show the lake to have risen from elevation 190·6, on January 1, to 191·1 on March 31, while the flow past the Chaudière falls averaged 25,000 c.f.s. for the winter months, this being 5,000 c.f.s. greater than the average for thirteen years.

At the Rideau locks the elevation on January 1 was 131·1 and at the end of March it was 134·4. The average monthly flow during the winter came to 31,700 c.f.s. This is 2,200 c.f.s. greater than the average for forty-eight years. It has been found necessary to estimate the winter flow below Ottawa by adding the flow from the Gatineau and Rideau rivers to that at Britannia bay. Reliable results cannot be obtained from readings on the Rideau locks gauge, owing to the length of the reach and the friction due to the ice cover.

Surveys were continued, during the summer, of the Madawaska river and of Timiskaming lake, besides which a survey was begun in May of the Coulonge river. It has been the aim in these surveys to fix the shore line and the water surfaces and to extend contours along each bank for 25 feet above the surface. All levels were connected with Canadian bench-marks, and as far as possible soundings were made across the streams so as to have a permanent topographical plan of the minor valley, both above and below water level. This work is plotted by latitudes and departures, at a scale of 400 feet to the inch.

The Madawaska survey has been completed from its junction with the Ottawa at Arnprior up to 150 miles to Rock lake, and Mr. Trudel deserves mention for the conduct of this work.

The survey of the shores of Timiskaming reservoir was made in continuation of the survey from Mattawa up to Timiskaming dam. The sides are steep and rocky, at many places sheer cliffs, rendering the work difficult, but Mr. Menard managed to carry the surveys of both shores up to Quinn Point, about 46 miles above Timiskaming dam.

The Coulonge survey was begun in May, and extended 35 miles up the main river, whence about four miles was done up the east branch. Mr. Anderson managed this survey well and it is to be regretted that it could not have been continued up to the head waters, Little Victoria lake, thence down the DuMoine river.

Owing to the war conditions all these surveys were closed down at the end of October and only the men in charge retained to plot the work.

Longitude and latitude points were established this year on the DuMoine and on the Coulonge rivers, as well as in the Kipawa watershed. The party then established three points down the French river, completing the series of points in the western area; besides these some points were fixed on the Upper Gatineau and the DuLievre, so that with last year's work the general positions of the whole watershed has been fairly well fixed for plotting on the mile to the inch plan.

Office work has consisted largely of the preparation of a general report covering the last three years, which is now in the hands of the printer. A large amount of plan work has also been under way connected with precise levelling, tidal surveys, land damages and other matters which have been referred to this office. The general curtailment of work has resulted in a large reduction of the staff, and, besides this, several members have volunteered for overseas service.

Plans of the Madawaska survey have been completed by Mr. Trudel at a scale of 400 feet to an inch. A general scheme of dams and reaches has been designed for this river and indicated on the plan in pencil for futnre reference. The arrangement would be suitable for both navigation and power.

The surveys made in Kipawa basin and from Mattawa up the river to Timiskaming dam and north to Ville Marie by Mr. Menard have also been plotted at 400 feet to an inch; upon these plans dams and reaches have been indicated as on the Madawaska survey.

The survey of the Coulonge river was recalled, but Mr. Anderson, now serving in the Royal naval air service, finished the plan at 400 feet to an inch.

I have the honour to be, sir,
Your obedient servant,

C. R. COUTLEE,
Engineer-in-charge.

CONCLUSION.

Owing to the terrible war now raging, in which the Dominion has assumed its share, it was wisely decided that only works placed under contract or nearing completion and works of a very pressing nature should receive the attention of this branch of the service, as was done last year. Works were maintained, repairs made and everything done in preparation for the resumption of the era of prosperity which is checked by the war and its consequences. In closing this report, I wish to extend to all the officers under my control, including those at headquarters, my most sincere thanks for the ability exercised and the assistance rendered in executing the different works placed under the control of this branch of the Department.

EUGENE D. LAFLEUR,
Chief Engineer.

REPORT ON GOVERNMENT TELEGRAPH LINES

FOR THE

FISCAL YEAR ENDED MARCH 31, 1916

DEPARTMENT OF PUBLIC WORKS,
OFFICE OF THE GENERAL SUPERINTENDENT,
OTTAWA, ONT., November 17, 1916.

R. C. DESROCHERS, Esq.,
Secretary, Department of Public Works.

SIR,—I beg to submit herewith my report on the Government Telegraph Service for the fiscal year ended March 31, 1916.

This report, as usual, is prefaced by a list to the present date of the land lines and cables in operation; with data of lengths, year of construction, number of offices at present established, and an estimate of the traffic handled in each instance.

The usual tabular statement giving list of offices, operating staff, etc., in the several districts are appended to the report; likewise the tariff sheets showing the rates charged for messages on the several lines.

I have the honour to be, sir,
Your obedient servant,

D. H. KEELEY,
General Superintendent.

THE GOVERNMENT TELEGRAPH SERVICE
DOMINION OF CANADA

HEAD OFFICE: DEPARTMENT OF PUBLIC WORKS, OTTAWA.

(March 31, 1916.)

EXECUTIVE.

The Hon. R. Rogers, Minister of Public Works.
J. B. Hunter, Esq., Deputy Minister of Public Works.

STAFF AT HEADQUARTERS.

D. H. Keeley, General Superintendent.
M. W. Crean, Technical Assistant to General Superintendent.
J. E. Gobeil, Technical Assistant to General Superintendent.
Miss E. D. McClosky, Secretary to General Superintendent.
Miss A. Ranger, Assistant Secretary to General Superintendent.
Miss F. G. Watterson, Second Assistant Secretary to General Superintendent.
P. G. Burgess, Accountant Telegraph Branch.
J. E. Bray, Assistant Accountant Telegraph Branch.

GENERAL INSPECTORS.

A. B. McDonald, North Sydney, Cape Breton, lines in Nova Scotia and New Brunswick.
J. S. Macdonald, Edmonton, Alta., lines in Northwest and British Columbia south.

SUPERINTENDENCIES.

Edwin Pope, Quebec, supt., North Shore and G.N.W. traffic.
P. E. Vignault, Seven Islands, dist. supt., North Shore, East Bersimis.
J. P. Pouliot, dist. supt., Quarantine line, etc., to Grosse Isle.
A. Malouin, dist. supt., West Point, Anticosti Island.
A. Le Bourdais, Grindstone, dist. supt., Magdalen Islands.
J. Dumulon, Ville Marie, P.Q., local supt., Timiskaming District.
C. W. McKee, St. John, N.B., supt. of Maintenance and Operation, Cape Breton system.
C. P. Livingstone, Glace Bay, C.B., N.S., supt. of Construction, Cape Breton system.
J. B. Parker, Grand Manan, N.B., dist. supt., Bay of Fundy system.
J. McR. Selkirk, Leamington, Ont., dist. supt., Pelee Island system.
Robt. C. Macdonald, Edmonton, Alta., dist. supt., Alberta District.
Wm. Dee, Victoria, dist. supt., Vancouver Island lines.
W. H. Stevens, Kamloops, B.C., supt., Kamloops-Okanagan.
J. T. Phelan, Vancouver, B.C., supt., Yukon system.
G. S. Fleming, Whitehorse, Y.T., acting dist. supt., Atlin-Boundary.
F. W. Dowling, Prince Rupert, B.C., dist supt., Atlin-Prince Rupert.
C. E. Gooding, Ashcroft, B.C., dist. supt., Ashcroft-Hazleton.
J. D. Noel, Battleford, Sask., dist. supt., Saskatchewan District.

GOVERNMENT TELEGRAPH SERVICE.

Location of Lines.	Points connected.	Year.	Length of Lines.			Number of Offices.	Message Sent.
			Land Lines.	Cables.	Total.		
			Miles Wire.	Kt's.			
Newfoundland..	Port au Basque—Cape Ray	1883	14	....	14	2	
Nova Scotia	North Sydney—Meat Cove (with loops)..	1880-02	168¾	.....			
" ..	Across Bras d'Or Channel	1880	.....	½	170	25	
" ..	" St. Anns Harbour (Englishtown).	1887	.....	4½			
" ..	" Ingonish Harbour	1887	.....	4½			
" ..	" French River	.....	.....				
" ..	Big Bras d'Or—Kempt Head	1904	20	.....	20	3	
" ..	Meat Cove—St. Pauls Island	1890	.....	20	23	1	
" ..	On St. Pauls Island	1890	3	.....	8	4	
" ..	Bay St. Lawrence to Money Point	1907	8	.....			
" ..	Mabou—Meat Cove	1887-00	116¼	.....	116¼	12	
" ..	Barrington—Cape Sable	1883	16	....			
" ..	Across Bear Point Channel	1883	.....	1½	17¾	Leased.	
" ..	" Lt. House Channel	1883	....	¼			
" .	Mabou—Port Hawkesbury	1903	41¾	.....	73¾	9	
" ..	Port Hawkesbury—St. Peters	1903	32	.....			
" ..	St. Peters—Main-à-Dieu	1904	83¼	.....			
" ..	Main-à Dieu—Scatari	1902-09	1	31½	133½	19	
" ..	On Scatari Island	1904	7¼	.....			
" .	Gabarus—North Sydney	1904	38½	.....			
" ..	Little Bras d'Or—Kempt Head	1905	34½	.....	34½	6	
" ..	North Sydney—Eskasoni	1905	31	..	31	10	
" ..	Eskasoni—Grand Narrows	1908	22	.....	22		
" .	Grand Narrows—Shenacadie—Beaver Cove	1910	15¼	....	15¼	3	
" ..	Leitches Creek—Steeles Crossing (loop)..	1910	28	.....	28		
" ..	Baddeck—Little Narrows	1910	19½	.. .	19½		
" ..	North Sydney—Little Bras d'Or (second wire)	1906	6	.....	6		18,944
" ..	Grand River—Enon	1907	19½	....	19½	2	
" ..	Enon—Gabarus	1909	29	.....	29	3	
" ..	Strathlorne—Wycocomagh	1909	33½	..	33½	7	
" ..	S. W. Margaree—Whycocomagh—Little Narrows	1912	38½	.....	38½	8	
" .	Loch Bau—Scottsville	1912	7	.....	7		
" ..	Whycocomagh—Orangedale	1912	8	.....	8	5	
" ..	North Sydney—Sydney Mines—Florence	1912	7	....	7		
" ..	Little Narrows—Washabuck	1912	12	.....	12	4	
" ..	Loop, Eskasoni—McAdams Lake	1912	5	...	5		
" ..	Baddeck, Nyanza—Big Intervale	1913	39½	.....	39½		
" ..	Brook Village—Glendale	1914	32	.....	32		
						6	
						6	
	Port Hood, Island Branch :						
	(Length of construction in loop.)						
" ..	On mainland at Port Hood	1907	½	...			
" ..	Port Hood—Smiths Island	1907	....	2	13½	4	
" .	On Smiths or Inner Island	1907	4	...			
" ..	Smiths Island to Henry Island	1907	....	3			
" ..	On Henry or Outer Island	1907	4	.....			
New Brunswick.	Chatham—Escuminac—Point Sapin	1885	52¼	.....	52¼	19	6,704
	Carried forward	.. ..	997¾	31½	1,029¼	158	25,648

SESSIONAL PAPER No. 19

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

Location of Lines.	Points connected.	Year.	Length of Lines.			Number of Offices.	Messages Sent.
			Land Lines.	Cables.	Total.		
			Miles Wire.	Kt's.			
	Brought forward	.....	997¾	31½	1,029¼	158	25,648
	Bay of Fundy System :						
New Brunswick.	Eastport—Campobello.....	1880	.....	1¾			
" ..	On mainland Eastport.	1880	½	...			
" ..	On Campobello Island.....	1880	7½	.....			
" ..	Campobello—Grand Manan	1880	... ..	10			
" ..	On Grand Manan Island..... ..	1880	25¼	.....			
" ..	Grand Harbour—Cheneys Island	1890	4¼	½	61¾	12	1,466
" ..	On Cheneys Island	1890		.....			
" .	Cheneys Island—Whitehead Island.....	1890	.....	¾			
" ..	Partridge Island—Fort Dufferin.....	1900	.....	¾			
" ..	" "	1910	.....	¾			
" ..	Campobello—Grand Manan	1916	. ...	9¾			
	Gannet Rock Branch :						
" .	Seal Cove—Big Wood Island..	1910	¼	1½			
" .	On Big Wood Island	1910	1½	.. ..			
" ..	Big Wood Island—Little Wood Island ..	1910	.....	½	11¼	3	*
" ..	On Little Wood Island	1910	¼	.....			
" ..	Little Wood Island—Gannet Rock ...	1910	.....	7¼			
	Magdalen Island System :						
Quebec.....	Meat Cove, C.B.—Magdalen Islands....	1880	...	55			
"	On Magdalen Island	1881-02	83½	½			
"	Grosse Isle—Brion Island...	1902	..	11			
"	On Brion Island to Dingwalls.	1902	1	....			
"	On Brion, Dingwalls to Lt. House.....	1909	5	.....	184¾	18	3,018
"	House Harbour—Pointe Basse (loop wire)	1902	8	....			
"	Pointe Basse—South Beach (loop wire)..	1905	6	....			
"	Grindstone—Barachois (loop wire).....	1909	6	....			
"	Amherst Island—Entry Island	1910	2	6¾			
	Anticosti System :						
"	Gaspé—L'Anse à Fougère	1881	28	....			
"	L'Anse à Fougère—Anticosti.....	1881	.....	44½	316½	9	2,336
"	On Anticosti Island	1881-90	223¼	...			
"	Anticosti—Long Point Mingan.....	1890	.....	21			
	Chicoutimi Dist.:						
"	Bay St. Paul—Chicoutimi	1881-04	98	.....	98	5	
"	St. Alexis—St. Catherines Bay.....	1904	78	.....	78	5	
"	Murray Bay—Bay St. Paul..	1904	37	.....	37	3	
"	Bay St. Paul—Petite River.	1904	13	... .	13	1	
"	Chicoutimi—St. Charles	1903	31½	.....			
"	St. Anne—Lac Claire.	1903	7	.....	46½	10	
"	St. Anne—St. Fulgence	1903	8	... .			
"	St. Fulgence—Sacré-Cœur	1905	73½	.....	73½	4	
"	Murray Bay—St. Catherines Bay (2 wire).	1904	53	....	53	....	
"	St. Alexis—Chicoutimi (2nd wire).... .	1905	14½	.....	14½	.....	
	Carried forward..... .	.....	1,813½	203½	2,017	228	32,468

* Included in Bay of Fundy System.

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

Location of Lines.	Points connected.	Year.	Length of Lines.			Number of Offices.	Messages Sent.
			Land Lines.	Cables.	Total.		
			Miles Wire.	Kt's.			
	Brought forward		1,813½	203½	2,017	228	32,468
	Chicoutimi Dist.—Con.						
Quebec	St. Charles—La Pipe	1907	30		30	4	
"	La Pipe—Peribonka	1908	17		17	2	
"	Bay St. Paul—St. Placide	1908	8½		8½	1	
"	Tache—St. Louis de Nazaire Loop	1912	5		5	1	
	North Shore Line:						
"	Murray Bay—Chateau Bay (Tadousac)	1881-01	947¼				
"	Across Saguenay River at Tadousac	1883		1¼	949½	73	37,880
"	" " " "	1909		1			
"	Chateau Bay—Belle Isle*	1901					
"	Bersimis—Godbout	1904-05	114		114		
"	St. Simeon to Cap Salmon Lt. (loop wire)	1909	4		4	1	
"	Harrington—Harrington Island	1909	1¼	3¼	4½	1	
"	Point Lebel Loop	1915	5		5	1	
	Quarantine System:						
"	Quebec—L'Ange Gardien	1885	13				
"	L'Ange Gardien—Orleans Island	1885					
"	" 3 lengths	1906-09		2¼			
"	On Orleans Island	1885	29¼				
"	Orleans Island—Isle Reaux	1889		2			
"	" (2nd cable)	1910		2¼			
"	On Isle Reaux	1889	2½		80¼	11	1,980
"	Isle Reaux—Grosse Isle	1889		2			
"	" " (2nd cable)	1910		2			
"	On Grosse Isle (all told)	1885-94	3¼				
"	St. Jean—Ste. Famille (loop)	1904	11				
"	St. François—St. François Nord (looped wire)		10				
"	St. François—Baie St. Paul†	1906					
"	Crane Island to Montmagny	1905-09		5	5		
"	On Crane Island	1905	3		3	5	2,296
"	Crane Island to Grosse Isle	1907		5	5		
"	Beauport—Laval	1909	15		15	4	
"	Orleans Island Telephone System	1910	68		68	7	3,601
"	Kippewa Dam—Ville Marie	1910	33½		78½	9	984
"	Ville Marie—North Timiskaming	1911	45				
"	St. Isidore Branch	1912	3½		3½	1	
"	Crano Island—Goose Island	1912	10		10	2	
"	Charlesbourg—Lake Beauport—Stoneham	1913	52½		52½	8	5,33
"	Lake St. Charles—St. Gerard	1914	34⅞		34⅞	4	
	Pelee Island System:						
Ontario	Leamington—Point Pelee	1889	12				
"	Leamington Dock—Pelee Island	1901		17¼	45⅞	18	1,752
"	On Pelee Island	1889-00	16½				
			3,308	247½	3,555½	381	82,698

* This cable (Chateau Bay-Belle Isle) 22¼ knots, was withdrawn in 1909.
† This cable, 30 knots, was withdrawn in 1910.

SESSIONAL PAPER No. 19

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

Location of Lines.	Points connected.	Year.	Length of Lines.			Number of Offices.	Messages Sent.
			Land Lines.	Cables.	Total.		
			Miles Wire.	Kt's.			
	Brought forward		3,308	247½	3,555½	381	82,698
	Northwest Lines—						
Saskatchewan	Qu'Appelle—Onion Lake	1883	402		402	9	6,522
"	Moosejaw—Wood Mountain	1885	107		107	4	6,479
"	Wood Mountain—Willow Bunch	1904	39		39	2	
"	Gravelbourg Loop	1910	38		38	1	
"	Leeville Loop	1912	28		28	1	
"	Saskatoon Loop	1892	28		28	1	
"	Duck Lake—Batoche	1902–10	9		9	2	
"	Duck Lake—Indian Agency	1902	3½		3½	3	
"	Lloydminster Loop	1904–09	58		58	1	
"	Lipton Loop	1906	2		2	1	
"	Fort Qu'Appelle—File Hills Agency	1907	28		28	4	
"	Kamsack—Indian Agency	1907	6½		6½	2	
"	Kamsack—Indian Agency—Pelly	1910	17½		17½	4	
"	Battleford—Isle-à-La-Crosse	1912	275		275	6	
"	Meota Loop	1912	20		20	1	
"	Sintaluta—Assiniboia Reserve	1913	8		8	1	
Alberta	Onion Lake—Edmonton	1883	205		205	8	
"	St. Paul—Durlingville	1912	48		48	3	
"	Edmonton—Athabaska	1904	98		98	2	
"	Athabaska—Mirror Landing	1909	70		70	1	
"	Mirror Landing—Peace River	1910	199		199	4	
"	Peace River—Dunvegan	1911	74		74	2	
"	Dunvegan—Lake Saskatoon	1912	76		76	2	
"	Grand Prairie City Loop	1912	16		16	1	
"	Lake Saskatoon—Fort St. John	1914–15	145		145	3	
"	Fort St. John—Hudson Hope	1915	62		62	1	
"	Peace River—Shaftsbury	1911	15		15	4	
"	Athabasca—Fort McMurray	1914–15	245		245	4	
"	Athabasca—Lac la Biche (Plamondon)	1914	58		58	1	50,512
"	Plamondon—Roman Catholic Mission	1915	12		12	1	
"	Edmonton—Indian Agency—Stony Plain	1904	32		32	5	
"	Edmonton—St. Albert	1887	9		9	1	
"	St. Albert—Qui Barre—Alexandre	1902	25		25	3	
"	Andrew Loop	1904	10		10	1	
"	Lamoqt Loop	1910	7		7	1	
"	Saddle Lake—Industrial School	1900	6½		6½	1	
"	Gronard—High Prairie	1912	25		25	5	
"	High Prairie—Prairie River	1913–14	12		12	6	
	British Columbia Lines—						
British Columbia	Kamloops-Vernon via Nocole	1899–11	512½	1½	514	63	
"	Kamloops-Mount Olie	1908–10	82		82	16	
"	Kamloops—Savona	1913	27		27	6	
"	Kamloops—Barnhart Vale	1911	14		14	5	
"	Shushwap—Notch Hill—Revelstoke	1914–15	192½	2½	194	26	61,598
"	Fairview—Midway	1914	57		57	7	
"	Whitemans Creek—Kelowna	1914	30		30	8	
"	Nelson—Trail	1914	61		61	11	
"	Proctor—Sirdar	1914	58¼	2¾	61	10	
"	Nakusp—Edgewood	1912	59	1	60	14	
"	Golden—Windermere	1901	88		88	16	3,052
	Carried forward		7,008¼	255¼	7,262½	666	210,861

GOVERNMENT TELEGRAPH SERVICE—*Concluded.*

Location of Lines.	Points connected.	Year.	Length of Lines.			Number of Offices.	Messages Sent.
			Land Lines.	Cables.	Total.		
			Miles Wire.	Kt's.			
	Brought forward	.....	7,008¼	255¼	7,262½	666	210,861
	British Columbia Lines—Concluded.						
Vancouver Island	Victoria—Banfield	1891	169	.....	169	12	
"	Alberni—Banfield	1899	53	.....	53	2	
"	Alberni—Clayoquot	1902	95¼	2¼	97½	5	
"	Clayoquot—Nootka	1913	62½	13¾	75⅝	8	
"	Clayoquot Branch	1913	1	½	1½	2	
"	Toquart—Sechart	1907	7½	2	9½	1	
"	Tofino—Mosquito Harbour, Bear River. Clayoquot Sound—Leonard Is. Light.	1911-14	55	3¾	58¾	.....	
"	Nanaimo—Comox—Campbell River	1893-08	118	.....	118	8	
"	Parksville—Alberni Branch	1895	30	.....	30	1	
"	Comox—Cape Lazo Branch	1910	6	.....	6	.....	
"	Union Bay—Denman & Hornby Islands.	1907	21	4	25	4	73,532
"	Nanaimo—Gabriola Island	1909	16	3	19	4	
"	Campbell River—Powell River	1910	65¾	10	75¾	11	
"	Powell River—Vancouver	1913	108	12	120	19	
"	Campbell River—Hardy Bay	1914	203¼	4½	207¾	18	
"	Vancouver—Squamish	1914	44½	1½	46	6	
"	Salt Spring Island Line	1902-14	88	7¼	95¼	19	
"	Sidney—Ganges Line	1910	21	2½	23½	.....	
"	Chemainus—Kuper—Thetis Islands	1912	3½	4	7½	5	
"	Saanichton—James Island	1912	3½	1	4½	2	
"	Sydney and Sydney Island	1910	3	3	6	2	
"	Bamberton Works, Keatings Branch	1914	.....	1	1	1	
Yukon	Ashcroft—Dawson and Boundary	1899-12	1,777	...	1,777	78	
"	Ashcroft—Quesnelle (local wire)	1878-87	215	...	215	.....	
"	Ashcroft—Lillooet Branch	1896	67	.....	67	12	
"	Lillooet—Pioneer Branch	1912	66	...	66	15	
"	Lillooet—Lytton Branch	1913	49½	.....	49½	12	
"	Ashcroft—Savonas Branch	1914	40	.....	40	5	
"	150 Mile House—Quesnelle Forks	1902	89	.....	89	5	87,440
"	150 Mile House—Bella Coola Branch	1912	329	.....	329	28	
"	Quesnelle—Barkerville Branch	1887	61	.....	61	5	
"	Hazelton—Prince Rupert Branch	1901-07	218	.....	218	22	
"	Terrace—Stewart Branch	1910-11	174	.....	174	8	
"	Queen Charlotte Island Line	1913-14	123	.....	123	13	
"	Hootalinqua—Livingstone Creek, Y. T. Branch	1907	70	.....	70	2	
	Total	.....	11,461½	330¾	11,792¼	1,001	371,833

SESSIONAL PAPER No. 19

REPORT ON THE GOVERNMENT TELEGRAPH SERVICE, 1915-16.

EXPLANATORY NOTES.

The tabular statement prefacing this report shows the total mileage, etc., of the telegraph lines operated by the Government. Lines that have been subsidized or constructed and transferred by the Government for operation by private companies are not included in this list.

The matter in the following pages comprises a statement of specific actions taken in the course of the year; and in pursuance of the plan followed last year the particulars are given in separate reports, hereto subjoined, from the district superintendents, and will be found indicated under the several divisional headings. In any case where no particular reference is made to a line found in the above-mentioned list, the understanding intended to be conveyed is that the line has been satisfactorily operated throughout the year, without any change of conditions since last made mention of in the annual report.

NEWFOUNDLAND.

The line from Port au Basque to Cape Ray continued to be operated as heretofore under an arrangement with the Anglo-American Telegraph Company.

MARITIME PROVINCES.

CAPE BRETON.

No lines were constructed during the year; general repairs under the supervision of the regular line repairers were carried on and the various lines placed in a state of efficiency.

Four new telegraph offices and five new telephone stations were opened.

Mr. D. C. Dawson, who for twenty-four years faithfully performed the duties of superintendent, resigned the position and on August 1 was succeeded by Mr. C. W. McKee, of St. John, N.B., whose report (No. 1) is hereto appended.

BAY OF FUNDY.

There were no serious interruptions on this system during the year. The *Tyrian* laid new cables between Whitehead and Grand Harbour, and between Flagg's Cove and Eastport, to parallel the existing cables.

A report (No. 2) from the district superintendent, Mr. J. R. Parker, is hereto appended.

QUEBEC.

MAGDALEN ISLANDS.—CABLE REPAIRS.

On December 19, an attempt made by the *Tyrian* to repair the Meat Cove-Old Harry cable was abandoned owing to continuous heavy gales, accompanied with snow. This cable was subsequently repaired on the opening of navigation.

MAINTENANCE AND OPERATION.

A report (No. 3) from the district superintendent, Mr. A. Le Bourdais, is hereto appended.

ANTICOSTI ISLAND.—CABLE REPAIRS.

The *Tyrian* arrived at Long Point of Mingan on November 24, and commenced work on the Long Point-Anticosti cable, broken since the previous year. Continuous heavy gales and snow prevented the completion of the repairs which had to be abandoned on December 7.

MAINTENANCE AND OPERATION.

A report (No. 4) from the district superintendent, Mr. A. Malouin, is hereto appended.

NORTH SHORE OF THE ST. LAWRENCE, CHICOUTIMI AND QUEBEC COUNTY LINES.

Extensive repairs were carried on during the year under the foremanship of the general repairers, and the lines placed in a state of efficiency.

Reports (No. 5) from Mr. E. Pope, superintendent at Quebec, and (No. 6) from Mr. P. E. Vignault, district superintendent, at Seven Islands are hereto appended.

QUARANTINE TELEGRAPH AND ORLEANS ISLANDS TELEPHONE SYSTEM.—CABLE REPAIRS.

The Crane island-Montmagny cable, of which two knots were carried away by ice in November, 1914, was repaired in May, 1915.

The Grosse Isle-Crane island cable, broken by ice in November, 1914, was repaired in May, 1915.

One of the St. Francois-Ile aux Reaux cables, broken by ice in March, 1915, was repaired on May 24, 150 feet of new cable being added.

The Orleans-Bellechasse cable was broken by ice in November, 1914, and repaired in April, 1915,, 600 feet of new cable being added.

General repairs on all the lines were performed under the supervision of Mr. J. P. Pouliot, district superintendent, whose report (No. 7) is hereto appended.

ONTARIO.

PELEE ISLAND TELEPHONE SYSTEM.

The cable between Pelee island and the mainland broken on December 6, 1914, was repaired in May, 1915. It again became inoperative in February, 1916, and will be repaired when weather conditions are favourable.

Report (No. 8) from Mr. J. McR. Selkirk is hereto appended.

NORTH WEST.

The construction of the lines from Athabaska to Lac La Biche and from Lake Saskatoon to Hudsons Hope were completed in August.

Extensive repairs were carried on throughout the system.

Reports (No. 9) from the district superintendent, Mr. R. C. Macdonald, and (No. 10) from general inspector, Mr. J. S. Macdonald, are hereto appended.

SASKATCHEWAN.

Construction of the Battleford-Isle-a-la-Crosse line was carried to a point 40 miles north of Green Lake, and will be completed next season.

Report (No. 11) from Mr. J. D. Noel, who was appointed district superintendent of Saskatchewan lines on September 1, is hereto appended.

BRITISH COLUMBIA (MAINLAND).

CONSTRUCTION.

The line from Kamloops to Revelstoke, of which 24 miles remained unfinished, was completed in January.

Extensive repairs and reconstruction was carried on throughout this system and a satisfactory report of operations (No. 12) from the superintendent, Mr. W. H. Stevens, is hereto appended.

VANCOUVER ISLAND AND THE YUKON.

CONSTRUCTION.

With the exception of 4 miles, from San Josef Bay to Sea Otter Cove, no construction was carried on during the year.

Extensive repairs were performed on all the lines as shown in the detailed report of maintenance and operation (No. 13) from the superintendent, Mr. J. T. Phelan, hereto appened.

TELEGRAPH SERVICE GENERALLY.

CABLE SHIP "TYRIAN".

The *Tyrian* was docked in November, 1914, for extensive repairs and the installation of new boilers, and was not in commission until November, 1915. The following cables were repaired: Big Bras d'Or channel, Main-à-Dieu, Scatarie, Seal Island, Deer Island and Gannet Rock.

NEW CABLES LAID.

Lubec Channel 0·25 knots.

Whale Cove-Meadow Brook 9·70 knots.

A statement of the vessels operations during the year is given in the accompanying report from Mr. A. B. McDonald, general inspector of the Maritime Provinces lines and Electrician of the *Tyrian*.

TELEGRAPH SYSTEMS OF THE DOMINION.

As a matter of general interest, pursuant to the statement submitted last year, the latest figures to hand showing the extent of telegraph lines in operation in the Dominion are as given hereunder.

Canada.	Length of Lines in Miles.				Length of Conductors in Miles.				No. of Offices
	Aerial.	Underground.	Submarine.	Total.	Aerial.	Underground.	Submarine.	Total.	
1915-16.									
Great North Western Telegraph Co	10,064	7	13	10,084	31,357	192	78	31,627	
Canadian Pacific Telegraph	14,633	20	95	14,748	106,660	592	228	107,480	1,564
Government Telegraph service	11,461½	.....	330¾	11,792¼	11,461½	.....	330¾	11,461½	1,001
Grand Trunk Pacific Telegraph	5,190¾	1	¼	5,192	19,797	25	1½	19,823½	233

SESSIONAL PAPER No. 19

REVENUE AND EXPENDITURE.

The revenue and expenditure for each of the Government lines in the several districts hereinbefore mentioned, are given in the following table:—

1915-16.	Expenditure.	Revenue.
	$	$
Lower St. Lawrence and Maritime Provinces—		
Anticosti lines	8,930 08	1,858 92
Bay of Fundy	2,927 11	975 61
Cape Breton	35,538 22	3,828 07
Cape Ray (subsidy)	250 00	...
Escuminac	1,692 82	968 20
Father Point Agency	500 00	...
Ile aux Coudres (subsidy)	200 00	...
Magdalen Islands	5,068 15	1,486 31
North Shore, east of Bersimis	27,442 35	5,182 20
North Shore, west of Bersimis	18,639 53	1,409 67
Orleans telephone	1,769 29	218 86
Quarantine system	6,174 22	308 74
Quebec County Lines	4,230 22	694 48
Prince Edward Island and Mainland	...	...
Cable ship *Tyrian*—		
Maintenance	70,167 78	...
Generally—		
Gulf and Maritime Provinces	776 61	...
Timiskaming District—		
Telephone line	2,864 70	259 90
Ontario—		
Pelee Island telephone	1,892 53	165 75
North West Territories Lines	117,417 99	27,642 06
British Columbia—		
Golden—Windermere	7,938 48	2,283 76
Vancouver Island	84,236 01	23,284 81
Nakusp—Edgewood	1,631 97	...
Kamloops—Okanagan	49,775 02	20,786 72
British Columbia generally	1,428 46	...
Yukon—		
Ashcroft—Dawson	218,625 35	89,872 98
Telegraphic service generally	10,244 29	...
Total	680,361 19	181,227 04

DEPARTMENTAL TELEPHONE SERVICE.

Up to date of this report (April 1, 1916) the telephone connections with the central office of the Bell Telephone Company at Ottawa, listed as chargeable to the special appropriation, numbered 988, the annual charge for which amounts to $40,488.80. The connections are distributed amongst the several departments, as hereunder.

Department.	No. of Telephones.		Total.	Cost per Annum.
	Offices.	Residences.		
				$ cts.
Agriculture	24	9	33	1,493 00
Auditor General	14	2	16	718 00
Census	1		1	80 00
Civil Service Commission	4	3	7	342 00
Clerk of Crown in Chancery	1	1	2	75 00
Conservation Commission	5	1	6	375 00
Customs	20	6	26	1,075 00
Dominion Archives	2	1	3	150 00
Dominion Police	16	5	21	815 00
Economic Developing Commission	1		1	57 00
Exchequer Court	2	1	3	145 00
External Affairs	6	2	8	348 00
Finance	15	6	21	875 00
Governor General	6	4	10	395 00
" " Private line				83 80
" " Private Branch Exchange	13		13	923 00
House of Commons	18		18	745 00
Indian Affairs	14	2	16	646 00
Inland Revenue	14	4	18	756 00
Interior Department	112	9	121	5,315 00
Justice	19	15	34	1,436 00
Labour	5	4	9	448 00
Library of Parliament	1	2	3	120 00
Marine Department	20	7	27	1,145 00
Militia and Defence	31	12	43	2,041 00
" " Private Branch Exchange	116		116	3,211 00
Military Hospitals Commission		1	1	40 00
Mines Department	17	1	18	772 00
" Private Branch Exchange	37		37	1,209 00
Mounted Police	4	1	5	195 00
Naval Service	22	5	27	1,146 00
North West Territories		1	1	35 00
Patriotic Fund Committee	1		1	65 00
Post Office	36	8	44	1,780 00
Printing and Stationery	12	12	24	963 00
" " Private Branch Exchange	52		52	1,115 00
Privy Council	7	5	12	525 00
Public Works	79	18	97	4,341 00
Railways and Canals	21	11	32	1,407 00
Secretary of State	12	5	17	778 00
Senate	15	4	19	755 00
Supreme Court	1		1	35 00
Trade and Commerce	10	3	13	570 00
War Purchasing Commission				
Private Branch Exchange	11		11	945 00
	817	171	988	40,488 80

APPENDED TABLES.

The usual tabular statements of the lines and offices, staff, etc., of the telegraph service, following hereupon, will be found to contain whatever additions or changes have been made up to March 31, 1916.

D. H. KEELEY,

General Superintendent.

GOVERNMENT TELEGRAPH SERVICE.

NEWFOUNDLAND TELEGRAPH SERVICE.

No.	Stations.	Intermediate distance.	Agents and Operators.	Memo.
1	Port au Basque	0	$50 00 or commission	N.B.—The commission is 25 per cent upon all business to and from the office; said commission guaranteed not to be less than at the rate of $50 per annum.
2	Cape Ray Lighthouse	14	50 00 "	
	Total	14	100 00	

N.B.—The above short line is constructed in connection with the Signal Service, and connects at Port au Basque with the land line system of the Anglo-American Telegraph Company.

GOVERNMENT TELEGRAPH SERVICE.

ANTICOSTI TELEGRAPH SYSTEM.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
1	Fox Bay	0				Closed Aug. 5, 1909.
2	Heath Point	2	C. Hubert	200 00	Aug. 1, 1900	For local agency. Cable removed.
3	South Point Lighthouse	32½	E. Leprise	200 00	July 1, 1903	Increased to $200 Aug. 1, 1912.
4	Shallop Creek	17½	B. Bradley	600 00	July 7, 1881	Increased to $600 Aug. 1, 1912.
5	Salt Lake	52½	A. Boudreau, operator and repairer	600 00	May 26, 1913	Plus $1 per day when on duty as general repair.
6	Southwest Pt. Lighthouse	15	A. Lemieux	600 00	July 1, 1901	Increased to $600 Aug. 1, 1912.
			L. Lemieux	300 00	July 1, 1908	Increased to $300 Aug. 1, 1912.
	Jupiter River	7				
	Otter River	17½				
	Beesie River	22				
	Cape Eagle (Ellis Bay)	10	Jas. Duguay	600 00	June 20, 1906	Increased to $600 Aug. 1, 1914.
7	West Point Lighthouse	9	A. Malouin, dist. supt.	520 00	Aug. 1, 1900	Increased to $520 Aug. 1, 1912.
			A. Malouin, operator	200 00	Aug. 10, 1881	Increased to $200 Aug. 1, 1912.
			Loz. Malouin, sub. opr.	600 00		Increased to $600 Aug. 1. 1912.
8	English Bay	3	F. Cabot	600 00	July 1, 1882	Increased to $600 Aug. 1, 1912.
			H. Malouin, gen. repairer	600 00	Sept. 10, 1909	
	Mechastic Bay (cable landing).	14½				From Mechastic Bay to South West Point. Increased to $600 Aug. 1, 1912.
	Total	223½		5,620 00		

Southwest Point connects with L'Anse à Fougère, Gaspé, by cable 44¼ knots; and from Mechastic Bay connection is made with Long Point of Mingan by cable 21 knots

0	L'Anse à Fougère		Thos. Dupuis	17 00		Special allowance for the cable terminus. A testing station only.
1	Gaspé Basin	28	J. J. Annett	780 00	Oct. 16, 1881	Transfer office. Connection with G.N.W. telegraph system. Increased to $780 Oct. 1. 1915.
		28		797 00		

MAGDALEN ISLAND SYSTEM.

1	Amherst	0	Miss J. Shea	62 00 or commission	Oct. 1, 1882	The Commission is 25 per cent on all business to and from the office in each instance; said commission guaranteed to be not less than at the rate of $50 per annum.
	To loop	4½				
2	Aurigny (on loop)	2¾	L. P. Gaudet	50 00 "		
3	Amherst Lighthouse	2				
	To main line	4½	Wm. Cormier	50 00 "	June 11, 1881	
	To cable	2¾				
	Cable stretch	6½				
4	Etang du Nord village	1½	A. Arsenault	500 00 "	Sept. 1, 1915	Plus $1 per day when absent on duty.
			Mrs. A. Binet	100 00 "	Dec. 1, 1881	
5	Etang du Nord Lighthouse (on loop)	1½	N. Arsenault	50 00 "	Sept. 1, 1901	Two wire loop line.
	To main line	1½				
6	Grindstone	7	Wm. Reneau	180 00 "	June 9, 1908	
7	Grindstone West	1	A. LeBourdais, dis. supt.	900 00 "	Aug. 17, 1880	Plus $1 per day when absent on duty. The salary was $720 per annum prior to July 1, 1908.
	To cable (on loop)	¼				
	Cable stretch (on loop)	½	J. J. LeBourdais	700 00 "	May 25, 1904	Salary increased to $700, Nov. 1, 1913.
8	House Harbour (on loop)	2¼	Camille Delaney	50 00 or commission	June 1, 1888	
9	Pointe Basse (on loop)	3	H. Arseneau	50 00 "	Aug. 1, 1902	
10	South Beach (on loop)	3				
	To main line (wire)	8½	F. Chevrier	50 00 "	July 1, 1905	
	To main cable	½				
	To loop	2¼				
11	Cap Verte (on loop)	¾	J. Richard	50 00 "	Oct. 1, 1914	
	To main line	3¾				
12	Wolfe Island	12				
13	Grosse Isle	11¼	N. Clarke	420 00 and commission	June 1, 1888	For repeating station. Prior to Dec. 1, 1902, the allowance was $200 and commission for local agency.
			J. Quinn	240 00 "	Dec. 1, 1902	
14	Old Harry	9	L. V. Clarke	50 00 or "	Mar. 8, 1907	
15	Grand Entry	5¾	Mrs. F. Atkins	50 00 and "	Feb. 18, 1882	
			S. Clarke, repairer	180 00 "	April 1, 1912	Plus $1.50 per day for labour and $1 per day horse hire when on line work
16	Grand Entry Point		Tim. Larade	Commission 25 p.c	March 4, 1913	
17	Grande Ruisseau		A. Arseneau	" "		
	CABLE CONNECTIONS.					
	Grosse Isle	0				
	Old Harry (wire only)	9	(Cable landing)			
	Cable to Meat Cove, Cape Breton	55	(See Meat Cove Line)			
	Grosse Isle	0				
	Cable to Brion Island	11				
18	Brion Island	1	C. Dingwall	150 00 or commission	Jan. 1, 1903	Two wire loop line from terminal hut for Grosse Isle cable.
19	Brion Lighthouse	3½	P. Chevrier	50 00 "		
	Amherst	0				
	Cable to Entry Island	6¾				
20	Entry Island Lighthouse	2	E. Chenell	15 00		
	Total	182¼		3,947 00		

Total mileage, Magdalen Islands system: Land wires, 101½; Cables, 80¼; Pole Line, 83¾.

7 GEORGE V, A. 1917

GOVERNMENT TELEGRAPH

NORTH SYDNEY—

No.	Offices.	Intermediate Distances.			Agents and Operators.
		Wire.	Embracing Pole Line.	Cables.	
		Miles.	Miles.	Miles.	
	Meat Cove*	0			Mrs. H. L. McEachern
2	Capsticks	3			M. J. Capsticks
	To loop	4	7		
3	Bay St. Lawrence (loopwire)	½			J. R. McNeil N. McDonald
4	Aspy Bay	4½	4½		R. C. Zwicker
	Cape North Island	5	5		N. A. McDonald
	To loop	1	1		
6	Dingwell (loopwire)	5½			G. W. Macpherson
	To loop	10	10		
7	Neils Harbour (loopwire)	2½			Arch. McLean
8	Ingonish	9	9		J. E. McLeod
9	South Ingonish	10½	10½		Mrs. M. C. Williams
10	Ingonish Ferry (¼ mile cable included)	2	2	¼	Mrs. W. A. McKinnon
11	Wreck Cove	9	9		Miss Mary Morrison
12	French River	5	5	¼	John McDonald
13	Breton Cove	2	2		D. B. McLeod
14	Indian Brook	7	7		C. A. McInnes
	To loop	2	2		
15	Murray (on loop)	8			
16	North River Bridge (on loop)	2			D. J. Morrison
	To main line	10	10		
17	Englishtown (¼ mile cable included)	3¾	3¾	¼	J. D. McAskill
18	Eel Cove	2	2		M. Smith
19	South Gut (on loop)	3	3		Rachel Morrison
20	Baddeck (on loop)	13			D. Dunlop
	To Englishtown	18	18		
21	Kellys Cove (New Campbellton)	12	12		Miss A. Morrison
22	Big Bras d'Or (½ mile cable included)	2	2	½	D. Livingston
23	Little Bras d'Or (350 ft. cable included)	8	8		M. Richards

*Meat Cove station connects with the Magdalen Islands system by cable to Old Harry Head, 55 knots,

SESSIONAL PAPER No. 19

SERVICE—*Continued.*

MEAT COVE SECTION.

Salaries per annum.	Date of appointment.	Memo.
$ cts.		
50 00 or commission*..	Sept. 1, 1897..	*Where not otherwise stated the commission is 25 p.c. of the tolls for the Government line on all business to and from the office in each instance; said commission guaranteed to be not less than at the rate of $50 per annum.
50 00 "	July 1, 1914..	
720 00	Oct. 1, 1914..	Cable station at Bay St. Lawrence in place of Meat Cove since September 1, 1906.
420 00	July 28, 1914..	
50 00	Jan. 1, 1916..	
50 00 or commission....	May 1, 1913..	
50 00 "	Nov. 15, 1915..	
50 00 "	Nov. 1, 1907..	
50 00 " ...	Feb. 1, 1912..	
50 00 " ...	Jan. 1, 1913..	
50 00 " . ..	Jan. 11, 1910..	Formerly in charge of Mr. Geo. Brewer, resigned.
50 00 "	Oct. 1, 1903..	
50 00 "	May 18, 1908..	
25 p.c. commission...	April 1, 1899..	
25 " ..	July 19, 1907..	
50 00 or commission....	June 1, 1913..	
....	....	Closed during winter of 1909-10.
50 00 or commission....	Oct. 5, 1909..	
120 00 and commission and 25 p.c. R. & Cks.. ..	Mar. 28, 1912..	Mr. W. Bingham, deceased, Jan. 8, 1912. Switching point for Baddeck line.
25 p.c. R. & Cks.....	Feb. 21, 1914..	
50 00 or commission....	Sept. 1, 1904..	
150 00 and 25 p.c.R.& Cks.	Oct. 11, 1913..	Former agent, L. M. Anderson.
.....	....	This loop to Baddeck starts from and returns to Englishtown.
50 00 or commission....	Dec. 2, 1909..	
100 00 "	Jan. 1, 1889..	Increase from $50 to $100 since November 1, 1904.
50 00 "	Dec. 1, 1912..	
2,310 00		

* Bay St. Lawrence with St. Paul's Island by a cable of 20 knots. The latter is operated with telephones

7 GEORGE V, A. 1917

DOMINION TELEGRAPH

NORTH SYDNEY—

No.	Offices.	Intermediate Distances.			Agents and Operators.
		Wire.	Embracing Pole line.	Cables.	
		Miles.	Miles.	Miles.	Brought forward..
	Meat Cove line—*Con.*				
24	North Sydney	4½	4½		W. U. Tel. Co.
	Instructor				Miss B. Bingham, Englishtown
	General Inspector				A. B. McDonald, North Sydney
	District Superintendent for all lines in Cape Breton				C. W. McKee, St. John, N.B.
	Total	168¾	137¼	1¼	
	Repairers' Sections.				
	General—				
	Meat Cove—Big Bras d'Or	162¾	125¾	½	Graham Dunlop, Baddeck
	Big Bras d'Or—North Sydney.	15	14½	½	Jos. Logue, North Sydney
	Local—				
	Meat Cove—Money Point and Aspy Bay	20	19½		Pat. Capstick
	Aspy Bay—Neils Harbour	24	16		M. McCaskell
	Neils Harbour—Ingonish Ferry	21¾	21½	¼	Rupert Curtis
	Ingonish Ferry—Englishtown.	29	28¾	¼	N. M. McLeod
	Baddeck Loop Line	36	18		D. McAuley
	Murray Loop Line	20	10		
	Englishtown—Big Bras d'Or	14½	14	½	N. McRitchie
	Big Bras d'Or—North Sydney.	12½	12½		
	Money Point Branch.				
1	Bay St. Lawrence	0			
2	Bay St. Lawrence Beach	1½	1½		
3	Cape North Light (Money Point)	5½	5½		Norman McLeod
	Cape North Fog Alarm (Money Point)	1	1		(Included in the mileage
		8	8		
	St. Paul's Branch.				
	Bay St. Lawrence	0			
	St. Paul's Island (Inc. 20 Kts. cable)	23	3	20	J. Campbell

SESSIONAL PAPER No. 19

SERVICE—*Continued.*

MEAT COVE SECTION—*Continued.*

Salaries per annum.	Date of appointment.	Memo.
$ cts.		
2,310 00		
Commission only.....	....	The commission is 50 p.c. on local business and 25 p.c. on through messages; and covers supervision of line and office accommodation at North Sydney.
600 00	Nov. 1, 1902.	Salary increased to $600, Aug. 1st., 1911.
1,500 00	May 9, 1905.	Increase to $1,500 from April 1st, 1909. Allowance of $300 per year in addition for office rent, etc. Mr. McDonald accompanies the ss. *Tyrian* as electrician in connection with the cable-laying and repairing.
720 00	Jan. 24, 1892.	Latest adjustment of allowance dates from July 1, 1907. The C. B. lines are operated in conjunction with the Western Union Telegraph.
5,130 00		
540 00 per annum. .	Dec. 31, 1912.	Increased from $480, March 1st, 1911.
(See Eskasoni line, etc.)..	....	Horse hire allowed in addition since Dec. 1, 1909.
80 00 per annum..	Dec. 31, 1912.	NOTE.—The rates of allowance are as adjusted in June, 1910. In reckoning the repair sections, loops (2 wire lines) are taken as equivalent to 50 p.c. additional pole line. Thus the Murray loop, 20 miles of wire and 10 miles of poles, is equivalent to 15 miles of pole lines.
90 00 " ..	Prior to June 1910.	
90 00 " ..	Jan. 1, 1912	
100 00 " ..	"	
100 00 " ..	Prior to June 1910.	
60 00 " ..	"	
60 00 " ..	"	
60 00 " .	June 1, 1910.	
1,180 00		
Accommodation.	Dec. 10, 1907.	This line was established and is being operated by telephone in the interest of the Signal Service.
"	"	
"	June 1, 1909.	
of the Meat Cove, North Sydney section.)		
60.....	Oct. 1, 1890.	

GOVERNMENT TELEGRAPH SERVICE—*Continued*

NORTH SYDNEY—MEAT COVE SECTION—*Concluded.*

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
	Repairers' Sections—Con.					
	Baddeck Loop Line		D. McAuley	100 00 per annum	Prior to June, 1910	
	Murray Loop Line		Philip McLean	60 00 "	Sept. 15, 1913	
	Englishtown Big Bras d'Or					
	Big Bras d'Or — North Sydney		L. G. Patterson	60 00 "	Sept. 6, 1915	
				280 00		
	Money Point Branch.					
1	Bay St. Lawrence		J. R. McNeil	Accommodation	Oct. 1, 1914	This line was established and is being operated by telephone in the interest of the Signal Service.
2	Bay St. Lawrence Beach					
3	Cape North Light (Money Point)		Norman McLeod	"	Dec. 10, 1907	
4	Cape North Fog Alarm (Money Point)					
	Total					

CAPE BRETON : NORTH SYDNEY—BOULARDERIE AND ESKASONI SECTIONS.

	Boularderie Line.					
	North Sydney.					
	Little Brasd'Or (MC. pol's)	4½	(See Meat Cove Line)			
1	Alder Point (loop line)	5	V. A. Plant	50 00 or commission	May 1, 1915	The commission is 50 p.c. of the Govt. line tolls in each instance and is guaranteed to amount to not less than $50 per annum.
2	Groves Point (1 mi. M.C. poles)	3	Rod. Campbell	50 00 "	Dec. 18, 1912	
3	Hillside	4	Mrs. Annabelle McKenzie	50 00 "	Feb. 1, 1907	
4	Boularderie West	4	M. R. McIntyre	50 00 "	Jan. 1, 1907	
		20½		200 00 "		

5	S. S. Boularderie	3	Donald McRae	50 00	"	Jan. 1, 1907	
6	Pointe Clear	4	Mrs. M. McLeod	50 00	"	Dec 1, 1906.	
7	Upper Kempt Head	7	Mrs. Murdock McKenzie	50 00	"	Oct. 6, 1904	
8	Ross Ferry	6½	Mrs. J. F. McKenzie	50 00	"	Oct. 1, 1911	
9	Boularderie Centre	6	Mrs. J. B. McKenzie	50 00	"	Oct. 6, 1904	
	Big Bras d'Or	7½	(See Meat Cove line)				
	Total miles wire	54½	Pole line 51.	450 00			
	Repairers' Sections.						
	Alder Point—Little Bras d'Or	5	John T. Tobin	50 00	"	Oct. 1, 1912	
	Big Bras d'Or — Upper Kempt Head	20		50 00	"	Jan. 1, 1907	
	Little Bras d'Or — Upper Kempt Head	24		50 00	"	July 12, 1909	
	On Meat Cove poles	5½					
	General repairer		Jos. Logue	(See below)			
	Total	54½		150 00			
	Eskasoni Line.						
	North Sydney						
1	French Vale (5¾ on Gabarus poles)	11	D. McKay	50 00	or commission	Nov. 29, 1915	The commission is 25 p.c. of the Govt. line tolls in each instance and is guaranteed to amount to not less than $50 per annum.
2	Gillis Lake	5	Katie McLean	50 00	"	July. 13, 1913	
3	East Bay	4	Miss M. L. McNeil	50 00	"	Aug. 1, 1913, re-opened.	
4	North Side, East Bay	6	James J. Gillis	50 00	"	Jan. 15, 1907	
5	Steels Crossing	5	Miss K. Campbell	50 00	"	July 24, 1915, closed Feb. 1, '16.	
6	Castle Bay	6	Miss C. McInnis	50 00	"	Aug. 18, 1912	
7	Benacadie Pond	5	J. N. McNeil	50 00	"	Mar. 20, 1909	
8	Benacadie	5	G. Farrell	50 00	"	Mar. 20, 1909	
9	Pipers's Cove	2	Katie McNeil	50 00	"	Mar. 20, 1909	
10	Grand Narrows	4	M. L. McNeil	50 00	"	May , 1910	Previously in charge of Daniel McNeil.
	Total miles of wire	53	Pole line 49¾.	500 00			
	Repairers' Sections.						
	On Meat Cove poles	5¾	A. A. Gillis Beechmont.	50 00 per annum			
	From Meat Cove Line to Gillis Lake	10¼					
	From Gillis Lake to Eskasoni (Castle Bay)	21	Duncan Gillis, North Side, East Bay	50 00	"	June 1, 1907	
		37		100 00			

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

CAPE BRETON—NORTH SYDNEY, BOULARDERIE AND ESKASONI SECTIONS—*Continued.*

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
	Repairers' Sections—Con.	Miles.		$ cts.		
	From Castle Bay to Grand Narrows	16				
	Total	53				
	General Repairer.					
	Boularderie line	54½	Jos. Logue, North Sydney	540 00 per annum	Jan. 1, 1906	Horse hire allowed in addition.
	Eskasoni line	53				
	Gabarus line, North Sydney—Leitche's Creek	53				
	Meat Cove line: North Sydney- Big Bras d'Or	15				
	Total	128½				

BAY ST. LAWRENCE—HAWKESBURY SECTION.

	Bay St. Lawrence	0	(See North Sydney line).			
1	Meat Cove (2nd wire)	7¼	" "			
2	Cape St. Lawrence	4				
	Half way	1½	Mrs. C. Jamieson	50 00 or commission	Jan. 1, 1904	The commission is 25 p. c. on all business to and from the office in each instance: said commission guaranteed to be not less than at the rate of $50 per annum.
	Poulets Cove	5½				
3	Pleasant Bay	8	Mrs. G. P. McIntosh	50 00 "	Sept. 1, 1907	
	Barren	10				
4	Cheticamp (Eastern Harbour)	10	M. S. Aucoin		April 30, 1912	50 p. c. Receipts and cheques without guarantee.
5	Grand Etang	8				Closed in March, 1905.
6	Margaree Harbour	8	A. B. C. McLean	120 00 without com'n.	Oct. 20, 1896	Allowance 50 p. c. Receipts and cheques government line prior to May, 1910.
7	Margaree Forks	8	Sarah McDougall	50 00 or commission	Sept. 10, 1908	
8	N.E Margaree (loop wire)	10	Mrs. J. D. Ross	100 00 per annum	Feb. 1, 1898	Increased January 1, 1916.
		80¼		370 00		

9	S.W. Margaree	4	Mrs. M. Collins	50 00 with com'n.	Jan. 1, 1912		
	To loop	12					
10	Inverness (loop wire)	8	J. McLean	360 00 without com'n.	April 1, 1912	Plus $12 per annum for battery care.	
11	Strathlorne (Willow B'nk)	3	Miss Rosa McLean	180 00 and commission	Nov. 1, 1908		
12	Mabou	9	Mrs. M. McDonald	120 00 without com'n.	April 1, 1887		
13	Port Hood	10	D. J. McDonald	50 00 or commission	July 1, 1903		
14	Smith's Id. (on loop) 1 mi. cable included	3¼	Miss E. L. Smith	50 00 "	Nov. 1, 1907		
15	Henry Id. (on loop) 1½ miles cable included	3½	Miss C. McLennan	50 00 "	Nov. 8, 1907		
	To Port Hood, 2½ miles cable included	6¾					
16	Judique	10	Miss M. C. McDonald	50 00 "	Jan. 1, 1912		
17	Craignish (Craigmore)	8	Allan Cameron	50 00 "	Nov. 1, 1903		
18	Port Hastings	10	Mrs. A. Petrie	50 00 "	Aug. 2, 1912		
19	Hawkesbury	3¾	Miss E. McDonald	240 00 without com'n.	Nov. 1, 1903		
	Total	171½		1,620 00			
	Miles of wire, 166½; miles of cable, 5; miles of pole line, 146.						
	Wycocomugh Branch Line						
1	Strathlorne	0	M. J. Kennedy	25% commission	Aug. 1, 1914	Repeating office, $15 per month, plus $1 per month for battery care from May 1, 1910 (C. 972)	
2	Kenlock	1					
3	McCormick	1¼	J. B. McCormick	50 00 or commission	Mar. 4, 1910		
	To loop	6					
4	Hays River Loop	1¼	H. R. Beaton	50 00 "	July 8, 1912		
5	West Side Lake	2¾	C. McInnes	50 00 "	Mar. 4, 1910		
	To main line	2¾					
6	Brook Village	6	L. Jamieson	50 00 "	Feb. 1, 1915		
7	Skye Glen	4	Mrs. J. A. Austin	25 00 "	Opened Sept. 12, 1913		
8	Wycocomagh	8½	Angus McLeod	50 00 and "	Jan. 31, 1911		
	Total miles of wire	33½	Pole line, 29½	275 00			
	Repairers' Sections.						
	General—						
	Meat Cove—Inverness	104½	P. A. Doyle, Inverness	720 00 per annum	Feb. 1, 1912	Horse hire allowed in addition to salary.	
	Inverness-Hawkesbury	67¼	J. F. McMillan, Port Hastings	480 00 "	May 17, 1910	Prior to March 1, 1911. Salary $35 per month	
	Wycocomagh Line	32¼					
	Local—						
	Bay St. Lawrence—Meat Cove	7¾	(See North Sydney Line)				
	Meat Cove—Half-Way Shanty	5½	R. Fraser	40 00 "	May 20, 1903		
	Half-Way Shanty—Poulets Cove		A. Fraser	30 00 "	Sept. 1, 1912		

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

BAY ST. LAWRENCE -HAWKESBURY SECTION -*Continued.*

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
	Repairers' Section—Con.	Miles.		$ cts.		
	Poulets Cove—Pleasant Bay	8	K. Fraser	40 00 per annum	May 20, 1903.	
	Pleasant Bay—Barren	10	A. D. Moore	40 00 "	April 1, 1913	
	Barren—Cheticamp	10	L. A. Poirier	80 00 "	May 15, 1912	Mr. J. A. Chaisson, former repairer, resigned on February 15, 1912.
	Cheticamp -Grand Etang	8	M. A. Boudreau	40 00 "	Apr. 15, 1913	
	Grand Etang—Margaree H	8	H. K. McLean	25 00 "	July 1, 1905	
	Margaree H. — S. W. Margaree and N. E. Margaree loop	22	J. F. Miller	50 00 "	Mar. 16, 1912	Mr. A. McFarlane, deceased, January 31, 1912,
	S. W. Margaree—Strathlorne	23	J. D. McFarlane	40 00 "	June 4, 1902	
	Strathlorne—Mabou	9	L. G. McDougall	40 00 "	Nov. 3, 1902	
	Mabou and Judique	20	Angus J. McDonald	50 00 "	Sept. 1, 1912	
	Judique and Port Hawkesbury	21¾	J. N. McIsaac	50 00 "	Aug. 1, 1904	Of this section (see list) 5 miles is submarine cable; the land line portions covering but 4½ miles of 2-wire line for the loop.
	Pt. Hood Islands	13½	Ambroise Smith	20 00 "	Aug. 1, 1908	
	Total	171½		1,505 00		

CAPE BRETON—HAWKESBURY—SCATARIE ISLAND SECTION.

	Hawkesbury	0	(See Bay St. Lawrence line)			
1	Cleveland	8	Mrs. W. E. Morrison	50 00 or commission	Nov. 17, 1915	The commission is 25 p.c. of the Government line tolls, and is guaranteed to amount to not less than $50 per annum. Where 50 p. c. commission is paid there is no guarantee as to amount.
2	Grand Anse	10	Miss C. McPherson	50 00 "	Aug 23, 1915	
3	River Bourgeois	8	Miss K. F. Fougere	50 00 "	Aug. 30, 1915	
4	St. Peters	6	J. E. Campbell	100 00 "	June 30, 1912	Main battery at St. Peters.
5	Rockdale	4	Mrs. J. D. Morrison	50 00 per annum	Sept. 1, 1915	
	To loop	2¾				
6	LowerLardoise(loop wire)	½				Closed.
7	Grand River	7	Miss E. A. Finlayson	120 00 and comm.	June 1, 1903	Repeating office. Allowance $50 and commission prior to April 1, 1912.
8	L'Archevêque	6	W. Kempt	50 00 "	June 1, 1912	
9	St. Esprit (Laframboise intervale)	7	Mrs. J. D. Morrison	50 00 "	Sept. 1, 1906	
		59¼		420 00		

10	Fourchie (Fourchu)	13	N. N. McDonald	50 00 or commission.	May 1, 1915	
11	Gabarus lake	8	Mrs. H. McDonald	50 00 "		
	To loop	8				Repeating office. Automatic repeaters for North Sydney line. $3 per month in winter for attending fire. Rent allowance $75 per annum.
12	Gabarus (loop wire)	3	Miss. C. Grant	360 without "	Jan. 16, 1904	
13	Louisburg	11	Wesley Townsend	240 00 or "	Feb. 1, 1904	
14	Big Lorraine	3	M. P. Dowd	25% commission.	Jan. 15, 1913	
15	Little Lorraine	4	N. A. Gallant	25% "	April 1, 1915	
16	Baleine	2	Henry Leahy	25% "	July 1, 1913	Main battery at Main-à-Dieu.
17	Main à Dieu	4	Mrs. Jas. McDougall	25% "	Feb. 4, 1912	
	To Landing	1				
18	Scatarie Island W. Cable	3½				Closed.
19	Scatarie Island East	7¼	Miss. T. Nearing	25% commission.	May 20, 1912	$8 per annum for care of main battery.
	Total	127		980 00		

Miles of wire, 123½; miles of cable, 3½; miles of pole line, 121¾.

	Grand River — Gabarus Line.						
	Grand River	0	(See Hawkesbury line).				
	To loop	7					
1	Grand River Falls (loop wire)	3	Mrs. E. D. McKillop	50 00 or commission.	Dec. 20, 1907	
2	Loch Lomond	5½	A. Morrison	50 00 "	April 1, 1914	
3	Enon	4	A. D. Morrison	50 00 "	Mar. 21, 1912	
4	Big Glen	5	A. D. McVicar	50 00 "	Jan. 21, 1915	
	Salmon River	11				
	Victoria Bridge	8	Mrs. A. McKinnon	50 00 "		
5	Gabarus (North Sydney line poles, 2½ miles)	5	(See Hawkesbury line)			
	Total	48½	Pole line, 44½	200 00		
	N. Sydney—Gabarus Line						
	North Sydney	0	(See Meat Cove line)				This line between North Sydney and Gabarus, without any intermediate offices prior to June, 1910, has been in operation since December 11, 1903.
1	Leitches Creek	3½	J. D. McCormack	50 00 or commission.	Feb. 28, 1913	
2	Ball's Creek	5½			Closed April 1, 1913	
3	Marion Bridge	17½	Austin Morrison	50 00 or commission.	Aug. 2, 1912	
4	Gabarus (Hawkesbury Pole line, 3 miles)	12	(See Hawkesbury line)			
	Total	38½	Pole line, 35½	100 00		
	Repairers' Sections.						
	Local— Grand River to Enon	19½	H. Urquhart, Grand River	50 00 per annum	June 10 1909	

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

CAPE BRETON — HAWKESBURY — SCATARIE ISLAND SECTION—*Concluded.*

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
	Repairer's Sections—Con.	Miles.		$ cts.		
	Grand River to Fourchu.	26	D. McKillop, Grand River.....	50 00 per annum....	June 10, 1909.....	
	General—					
	Hawkesbury to Gabarus.	89¾	M. McRae, St. Peters...	480 00 "	Feb. 1, 1912.....	Horse hire allowed in addition since December 1, 1909. Salary $35 per m. prior to Mar. 1, 1911.
	Gabarus to Leitches Cr'k	33				
	Gabarus to Scatarie Id. E	33½	D. S. Hooper, Louisburg	540 00 "	July 21, 1912.....	Horse hire allowed in addition.
	Gabarus to Enon.	29				
				1,120 00		

BADDECK—NYANZA—BIG INTERVALE SECTION.

	Baddeck.....	0	D. Dunlop.....	50 00 per annum....	
	Nyanza	6½	Mrs. M. McRae	25% Comm.....	Sept. 2, 1914.....
	West Middle River.....	5	Thos. McRae.	" "	" " .....
	Upper Middle River....	6	D. McLennan	" "	" " .....
	Friggleton.....	2	Ralph McPherson.....	" "	Oct. 10, 1915 ....
	N.E. Margaree.	12	Mrs. D. J. Ross....	" "	
	Big Intervale.	8	R. McKenzie.	" "	Nov. 1913.....
		39½			

SOUTH WEST MARGAREE—WHYCOCOMAGH—LITTLE NARROWS SECTION.

	S. W. Margaree....	0			
	East Lake Ainslie.	11	D. McKinnon.....	25% Comm.... .. .	Nov. 1913... .....
	South "	12	J. R. McMillan.....	" "	" " .....
	Ainolie Glen.....	2	D. McNeil..... , ..	" "	" " .....
	Stewartdale	2	D. H. McDonald. . ..	" "	" " .....
	Whycocomagh	3			
	Little Narrows.....				
	North Side....	8½	D. B. McKay.....	" "	Sept. 8, 1913.....
		38½			

BADDECK—LITTLE NARROWS—WASHABUCK CENTRE.

	Baddeck	0			
1	Little Narrows North Side	12½	J. J. Gillies	25% Comm	
2	Little Narrows South Side	7	D. B. McKay	" "	Sept. 10, 1914
3	Washabuck Bridge	6	J. D. McRitchie	" "	" " "
4	Washabuck Centre	6	Alec McNiel	" "	" 14, "
		31½			

STRATHLORNE—SCOTTSVILLE CENTRE.

	Strathlorne	0			
1	Loch Ban	4	J. B. McCormik	25% Comm. guar	
2	North Lake Ainslie	2	J. J. Dunbar	" "	Nov. 1913
3	Ainslie	2	Neil McDonald	" "	Sept. 1915
4	Scottsville	3	L. E. McKay	" "	Nov. 1913
		11			

WHYCOCOMAGH—ORANGEDALE SECTION.

	Whycocomagh	0			
1	Iron Mines	4	C. McLean	25% Comm. guar	
2	Orangedale	3	A. McLeod	25% Comm. guar	
		7			

GRAND NARROWS—SHENACADIE—BEAVER COVE SECTION.

	Grand Narrows	0	M. L. McNeil	25% Comm	Apr. 1, 1915
1	Christmas Island	1½	S. T. McNeil	" "	Sept. 11, 1914
2	Shenacadie	7	N. J. McKinnon	" "	" 1914
3	Beaver Cove	7	D. McNeil	" "	" "
		15½			

BROOK VILLAGE—GLENDALE SECTION

	Brook Village	0	L. Jamieson	$50	Feb. 1, 1915
1	Mull River	4	D. S. McDonald	25% Comm	Dec. 13, 1915
2	Glencoe Mills	7	D. H. McDonald	25% "	" " "
3	Upper Glencoe	5	Hugh McEachern	25% "	" " "
4	River Dennis	7	John A. Cameron	25% "	" " "
5	Glendale	9	Alex. H. Boyd	25% "	" " "
		32			

No.	Stations.	Intermediate distance.	Agents.	Allowance.	Date of appointment.
		Miles.			
1	Chatham	.....	Miss J. Sivewright	$ 50 per annum	April 1, 1914.
		.....	M. Ramsay, repairer	600 "	Aug. 25, 1913.
2	Lower Nappan	8¼	Wallace Campbell	25 p.c. receipts	Nov. 1, 1913.
3	Point au Carr	5	E. H. Russel	25 " "	" 1, 1913.
4	Victoria	3	Jas. MacDonald	25 " "	" 1, 1913.
5	Hexham	2	M. J. Macdougall	$ 50 per annum	July 1, 1904
6	Bayside	3	Jos. Williston	25 p.c. receipts	Nov. 1, 1913.
7	Bay du Vin	2	S. B. Williston	25 " "	" 1, 1913.
8	Hardwicke	7	M. Bremner	$ 50 per annum	Aug. 1, 1891.
9	Eel River	2	Valentine Gibbs	25 p.c. receipts	Nov. 1, 1913.
10	Bay St. Anne	2	S. J. & H. Lavoie	25 " "	" 1, 1913
11	Escuminac	3	D. Lewis	$ 50 per annum	Sept. 1, 1885.
12	Point Escuminac	5	K. R. McLennan	$ 50 per annum	Nov. 1, 1893.
13	Point Sapin	9	W. S. Loggie & Co.	25 p.c. receipts	" 1, 1913.
14	Point Sapin	1	M. Lavoie	25 " "	" 1, 1913.
15	Bay du Vin Wharf	.....	B. Williston	25 " "	July 1, 1915.
16	Eel River	.....	H. Schofield	25 " "	" 1, 1915.
17	Eel River Bridge	.....	C. Asoyuf	25 " "	" 1, 1915.
18	Lower Escuminac	.....	Louis Jimmo	25 " "	" 1, 1915.
	Total	52¼		$850	

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

NOVA SCOTIA TELEGRAPH SYSTEM.

Cape Sable Section.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
1	Barrington	0				This line has been leased to the Barrington Telephone Company from August 12, 1897. The lease is terminable at any time.
2	Newelton (including 1½ knots cable)	11				
3	Cape Sable Island lighthouse (including ¼ mile cable)	6¾				
		17¾				

East Coast Section.

N. B.—In connection with the Signal Service, a land line, 208 miles in length, was erected in 1881, between Canso and Halifax, for a bonus of $16,000, and is maintained and operated by the Western Union Telegraph Company, without further cost to the Government.

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

BAY OF FUNDY, N.B.

Grand Manan and Campobello Islands.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
	Grand Manan—			$ cts.		
1	Long Eddy Cable Hut to Flaggs Cove	3	J. R. Parker	540 00	May 14, 1912	
	"		A. Gilmore	60 00	Dec. 1, 1894.	
2	Castalia	2½	Geo. E. Dalzell	25 p.c. commission	June 1, 1898	The commission of 25 p. c. on all Government line business to and from the office and commission guaranteed not to be less than at the rate of $50 per annum. When 50 p. c. commission is paid there is no guarantee as to amount.
3	Woodwards Cove	3½	W. A. Fraser	50 " "	Feb. 28, 1893.	
4	Grand Harbour	2	C. A. Newton	75 00 or commission.	April 1, 1887	
5	Seal Cove	4½	J. A. Ingersoll	75 00 "	Sept. 22, 1899.	
6	"	¼	Mrs. Robert Fraser	25 00 "	Jan. 1, 1906.	
7	Deep Cove	2	C. Dalzell	25 p. c. "	June, 1913.	
8	Southern Head	3¼	T. Foster	25 " "	Dec. 1, 1910	
	Branch Lines.					
	Grand Harbour—					
9	Cheney's Island, ½ knot cable	4¾	S. E. Russell	25 " "	Feb. 1, 1891.	
10	White Head Island, ¾ knot cable	1½	Mrs. H. Leary	50 00 "	July 1, 1910.	
	Woodwards Cove to					
11	Nantucket, ½ knot cable	3¼	J. Moses	25 p.c. "	May 1, 1914.	
12	Duck Island, 1¼ knot cable	9¾	M. L. Daggett	25 " "	May 1, 1914.	Second cable laid March 30, 1916.
	Cable, Long Eddy to Herring Cove, Campobello	10	E. G. Mitchell	210 00 and "	May 1, 1905.	Rent $60 per annum. Fuel, about $30.
13	Herring Cove Cable Hut to Welchpool	4¾	W. Parker, repairer	$2 00 per day		
	Cable across Channel to Eastport	1¾				
14	Eastport, Me., U.S.A.	½	Miss. M. E. Hurley	200 00 per annum	June 30, 1913.	
	Total	57¼				

	Gannet Rock Line—Seal Cove to—					
15	Wood Island	1½	P. Green	25 p.c. commission	Nov. 7, 1910.	This line is operated in interests of Marine and Fisheries Department.
16	Little Wood Island, ½ knot Cable	2¼	H. Harvey	Accommodation	May 1914	
17	Three Sister Island, 2¼ knot Cable	3¼	M. Foster	25 p.c. commission	May 1914	
18	Gannet Rock	7¼	Agent of M. & F		Nov. 1910	
19	Partridge Island, Fort Dufferin, ¾ knot Cable	¾			1900	
	Partridge Island, Fort Dufferin, ¾ knot cable	¾			1910	
	Total	73				

CHICOUTIMI AND NORTH OF ST. LAWRENCE TELEGRAPH SYSTEM.

Chicoutimi—Tadoussac Section.

1	Chicoutimi	0	J. D. Villeneuve, insp.	780 00	April 1, 1906	
			T. Villeneuve, operator	660 00	" 1, 1907	
			S. Lavoie	540 00	Nov. 1, 1914	
			A. Blais, messenger	120 00	" 1, 1912	
			M. Desbiens, cleaner	72 00	Aug. 1, 1906	
			J. Fortin, repairer	426 00	June 1, 1914	
2	Ste. Anne	2½	Miss A. Gauthier, op'r.	50 00	Feb. 1, 1909	
			P. Gauthier, repairer	350 00	" 1, 1904	
3	St. Fulgence	8	E. L. J. Tremblay	50 00	Jan. 1, 1904	
4	Lac Laurent	8	S. Gagnon, operator	50 00	April 1, 1906	
			J. Brisson, repairer	360 00	June 1, 1906	
5	Descente des Femmes	9	Aug. Villeneuve, op'r.	50 00	April 1, 1906	
6	Ste. Marguerite Depot	34	E. Simard, operator	50 00	Aug. 1, 1909	
7	Ste. Marguerite	2	Alex. Savard, op'r.	50 00	Mar. 15, 1912	
8	Sacré Cœur	8	Miss L. Maltais, op'r.	50 00	April 1, 1906	
			H. Gravel, repairer	360 00	" 1, 1906	
9	Tadoussac West	11½	J. Desmeules, agent	25 p.c. commission	" 18, 1907	
10	Tadoussac	1	Eugène Caron, agent			See North Shore line.
		84		4,012 00		

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

CHICOUTIMI—PERIBONKA SECTION.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
1	Chicoutimi	0	(See above.)			
2	Ste. Anne	2½	" "			
	To loop	5½				
3	Shipshaw North, loop wire	4	Jos. Blackurn, operator	50 00	Nov. 1, 1913	
4	Shipshaw	1	Miss M. Dufour, operat'r	50 00	" 1, 1907	
5	St. Leonard	4	Geo. Gagnon, operator	50 00	Sept. 1, 1903	
	To loop	2				
6	St. Ambroise, loop wire	8	A. Simard, operator	50 00	June 1, 1905	
7	St. Charles Borromée	4½	B. Bouchard "	50 00	Sept. 1, 1903	
8	Taché	7	Jean Fradette "	50 00	Jan. 1, 1908	
9	St. Louis de Nazaire, loop	2½	D. Blackburn	50 00	Sept. 23, 1912	
	To loop	4½				
10	St. Joseph d'Alma, loop wire	6	P. Lavoie, operator	50 00	Aug.—, 1914	
			Gédéon Verreault, rep.	360 00	Mar. 1, 1909	
11	St Cœur de Marie	6	Alf. Rousseau, operator	50 00	Jan. 1, 1908	
12	St. Henri de Taillon	6½	N. Larouche "	50 00	May 1, 1913	
13	Honfleur	8	Charles Lindsay "	50 00	Jan. 1, 1909	
14	Peribonka	9	Mrs. E. Niquette "	50 00	" 1, 1909	
		81		960 00		

CHICOUTIMI—LAC CLAIR SECTION

1	Chicoutimi	0	(See above.)			
2	Ste. Anne	2½	" "			
3	Range 6	3				
4	Lac Charles	3				Closed Nov. 1, 1915.
5	Lac Clair	4				Closed Dec. 12, 1912.
		12½				

MURRAY BAY—BAIE ST. PAUL SECTION.

1	Baie St. Paul	0	F. Boivin			See North Shore section.
2	St. Hilarion	15	N. Coulombe	$50 00	Sept. 1, 1909	
3	St. Antoine	5	T. Perron	50 00	" 1, 1915	
4	St. Agnes	9	J. Pilote	50 00	July 1, 1913	
5	Murray Bay	8	Mrs. F. Vincent			See Chicoutimi section.
		37		$150 00		

BAIE ST. PAUL—PETITE RIVIÈRE BRANCH.

1	Bay St. Paul	0	F. Boivin			See Baie St. Paul, Chicoutimi section.
2	Petite Rivière (St. François)	13	L. J. Bouchard	50 00	Mar. 31, 1914	Payment at Baie St. Paul, $25 per year and $12 for battery care for operation of this branch to Petite Rivière.
		13		50 00		

BAIE ST. PAUL—ST. PLACIDE BRANCH.

1	Baie St. Paul	0	F. Boivin			See Baie St. Paul, Chicoutimi section.
2	St. Placide	8½	D. Simard	50 00	May 1, 1909	
		8½		50 00		

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

CHICOUTIMI AND NORTH SHORE OF ST. LAWRENCE TELEGRAPH SYSTEM.

BAIE ST. PAUL—CHICOUTIMI SECTION.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
1	Baie St. Paul		F. Boivin, agent	420 00 per annum† } 25 p.c. commission }	April 1, 1885	Increase from $360, Sept. 1, 1909. *The commission on business is 25 per cent of the Government tolls of the line; the amount guaranteed to be not less than $50 per annum.
2	St. Urbain	9	J. B. Simard, agent	50 00 or commission		
			A. Gauthier, repairer	360 00 per annum	July 1, 1912	Increase from $270, July 1, 1909.
3	La Galette	37	Toussaint Girard	150 00 or commission	Aug. 1, 1913	Salary increased to $150 per annum, June 1, 1907. Plus $25 per year for operating branch line to L'Anse St. Jean.
4	Ferland	27½				Ferland office closed, July 1, 1911.
5	St. Alexis	10	Mrs. D. Simard	75 00 or commission	Nov. 1, 1899	
6	St. Alphonse de Bagotville	3	Mrs. C. Levesque	150 00 per annum	June 1, 1906	A. Gauthier's division includes the branch line to L'Anse St. Jean.
7	Chicoutimi	11½				
		98		1,205 00		†Salary increased to $360 per annum, June 1, 1907.
	Branch Line.					
	St. Alexis	0	Mrs. D. Simard	75 00	Jan. 1, 1912	P. V. Lavoie resigned Oct. 1, 1911.
8	St. Félix d'Otis	10	Jos. Gagnon	50 00	Nov. 1, 1907	
9	L'Anse St. Jean	30	Eris Dégagné, repairer	425 00	Sept. 1, 1903	
10	Petit Saguenay	8	M. Tremblay	50 00	Feb. 1, 1905	
11	Anse Cheval	6				(This office has been closed since April 30, 1904).
12	St. Etienne	7				
	St. Catherine Bay	17	G. Boulianne (see North Shore W. B. Line)			
		78		600 00		
	Total	176		1,805 00		

NORTH SHORE (West Bersimis).

1	Murray Bay	0	Mrs. F. Vincent, operator	50 00 or commission	April 1, 1885		Plus $25 per year, and $12 for battery care for operation of branch to Guay.
2	Cap à l'Aigle	4	P. Duchesnes, operator	50 00 "	May 1, 1914		
3	St. Fidèle	6	R. Dallaire, operator	50 00 "	April 1, 1912		
4	Port au Persil	7	A. Villeneuve, repairer	420 00 "	Feb. 1, 1913		
			Thos. McLaren, operator	50 00	May 1, 1912		
5	Cap Saumon Light (Loop from St. Siméon)	2	Delph. Bouchard, operat.	50 00 or commission	April 1, 1910		
6	St. Siméon	4	Jos. Morin	50 00 "	Aug. 1, 1912		
7	Baie des Rochers	12	F. Bouchard, operator	50 00 "	Sept. 1, 1912		
8	St. Catherines Bay	18	G. Boulianne, repairer	420 00	Nov. —, 1886		Salary increased to $420 March 1, 1912.
			Mde. D. Boulianne, oper.	240 00			

NORTH SHORE (West of Bersimis)—*Continued.*

9	Tadoussac (1½ knot cable)	1¼	J. E. Caron, operator	360 00	Nov. 1, 1888		
10	Bergeronnes	10	Mde. M. Savard, operat.	50 00 or commission	April —, 1885		
11	Bon Désir	5	Mde. E. Gauthier, oper.	50 00 "	Aug. 1, 1904		
12	Escoumains	12	J. H. Topping, operator	50 00 "	Aug. 1, 1885		
13	Baie des Bacons	8	P. Bouchard, operator		May 6, 1902		Commission 25 per cent without guarantee.
14	Sault au Moutou	6	C. E. Nolet, operator	50 00 or commission	Nov. 1, 1906		
15	Mille Vaches	2	Mde. L. Puize, operator	50 00 "	Aug. 1, 1907		
16	Portneuf	11½	Léandre Bouchard, oper.	50 00 "	July 1, 1890		
			E. Courbron, repairer	420 00	April 1, 1888		
17	Hamilton Cove	1					Closed.
18	Sault au Cochon	7					Closed Sept. 30, 1896.
19	Bersimis West	31	Mrs. F. Miller, operator	50 00 or commission			
			E. Pope, Dist. Supt.	2,400 00	April 1, 1885		Including general accounting, and supervision of stores at Quebec.
	Total	147¾		4,960 00			

*Note.—In the estimates, the maintenance of the Chicoutimi and North Shore line is provided under head of North Shore Line. They are operated conjointly.

NORTH SHORE (East of Bersimis).

1	Bersimis East	5	A. Maloney, agent	550 00	Sept. 21, 1896		
			Mrs. A. Maloney, asst. opr	200 00	July 1, 1906		Repeating office and 2 main batteries.
			Jos. Gagnon, repairer	420 00	Aug. 12, 1906		Plus 50 cents per day when absent on duty.
2	Point aux Outardes	29	Miss G. Ross, operator	50 00 or commission	Jan. 1, 1910		
			D. Malouin, repairer	420 00	June 14, 1907		Plus 50 cents per day when absent on duty.
3	Point Lebel (Inc, Loop)	26	H. Grenier, operator	25 p.c. commission	Nov. 17, 1915		Loop to Point Lebel 5 miles.
4	Manicouagan	11	P. Martel and his son	25 p.c. commission	Sept. 26, 1910		
5	Mistassini	22	W. Montreuil, operator	420 00			
6	St. Nicholas	14	L. Bouchard	25 p.c. commission	Oct. 23, 1908		Plus 50 cents per day when absent on duty
7	River Godbout	12	N. A. Comeau	50 00 or commission	Oct. 15, 1885		
			N. A. Comeau, repairer	450 00			

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

CHICOUTIMI AND NORTH SHORE OF ST. LAWRENCE TELEGRAPH SYSTEM—*Continued.*

NORTH SHORE (East of Bersimis)—*Continued.*

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
8	Point des Monts	18½	Victor Faffard	50 00 "	Dec. 28, 1883	
9	Trinity Bay West	5½	Jos. Poulin	50 00 "	May 16, 1884	
10	Trinity Bay East	2½	A. Bilodeau	25 p. c. commission	May 1, 1889	
11	Caribou Island	7	Jos. Chouinard	25 " "	July 22, 1911	
12	Egg Island Light	8½	Mrs. E. Chouinard	Accommodation	July 22, 1911	No commission paid. Telephone only with Pentecost office.
	Pointe aux Anglais	2		25 p.c. commission	1895	Cable from Egg Island.
13	Pentecost	6½	Jos. Picard	310 00 per annum	Sept. 20, 1911	Main battery.
14	May Islands	9	A. Label	25 p.c. commission	Sept. 15, 1913	
15	Ste. Marguerite	38½	A. Therriault	180 per annum	July 1, 1888	Also as line repairer for 40 miles from Hall to Rock Rivers.
16	Clark City	5	North Shore Power, Railway and Navigation Company	25 p.c. commission	April 17, 1903	
17	Seven Islands	17¾	P. E. Vignault, agent	180 00 and 25 p.c. com.	Jan. 2, 1884	Also see to small repairs when trouble between Hall and Moisie Rivers.
	"		P. C. Vignault, gnl. rep	540 00	Jan. 12, 1912	Plus 50 cents per day when absent on duty.
18	Moisie West	14½	Mrs. Chicoine, operator	50 00 or commission	June 1, 1906	
19	Matamek	1	Mrs. Hamilton	25 p.c. commission	April 1, 1914	In operation during fishing season
20	Pigou	28	Peter Wright, repairer	112 00	Oct. 1, 1902	
			Mrs. P. Wright, operator	100 00	Oct. 1, 1902	
21	Rivière aux Graines	29	Miss A. Blaney, operator	50 00	Oct. 6, 1910	Agt. M. Langlois, $12 per year for office rent.
22	Sheldrake	15	Mrs. A. Girard, operator	50 00	Dec. 1, 1904	Agt. A. Girard, $12 per year for office rent
23	Thunder River	6½	Mrs. H. Cody, operator	50 00	Feb 1, 1890	$12 per month for care of main battery and $12 per year for office rent.
	Dock	6	Mrs. R. Grenier, operator	25 p.c. commission	May 15, 1915	
24	Magpie	8	Geo Poirier, operator	50 00	Sept. 17, 1905	Agt. G. Poirier, $12 per year for office rent.
25	St. John River	9	Ben. Chambers, operator	50 00	Oct. 1, 1899	Agt. B. Chambers, $12 per year for office rent.
26	Long Point of Mingan	10	E. H. Têtu, Dist. Supt.	1,080 00	Nov. 1, 1891	
			Mrs. E. H. Tetu, op'r	300 00	Nov. 1, 1903	Repeating office for Anticosti cable in operation since Sept. 1, 1891 (3 main batteries), repeaters.
			J. V. Guay, agent	500 00	Nov. 1, 1910	
			Mrs. Guay, asst	180 00		
27	Mingan	7	Mrs. C. Maloney, op'r	100 00		Salary increased to $100 per annum, March 31, 1907.

28	Point Esquimaux	24	Mrs. E. Cyr, operator	240 00	Sept.	1, 1897	
			E. Cyr, repairer	500 00	Nov.	2, 1902	Main battery. Plus 50 cents per day when absent on duty. Extra allowance at Esquimaux Point Telegraph, $48 a year for office rent ; $40 a year for firewood ; $24 a year for storage ; 25 p.c. commission.
							At Pt. Esquimaux, Govt. Tel. supply agent Alfred Landry, from Betchouan eastward, salary $60 per year.
29	Betchouan	20	A. Desjardins, o'r and rep	212 00	July	22, 1913	
30	Piastre Bay	23	Mrs. J. Beetz, operator	100 00	Sept.	18, 1902	
			S. Tangnay, repairer	112 00	Sept.	18, 1902	
31	Watichou	15	Mrs. C. Bourque, op'r.	100 00	Dec.	1, 1903	
			John Bourque, repairer	112 00	Dec.	1, 1903	
32	Aguanus	21¾	Mrs. Galant, operator	100 00	Sept.	3, 1902	
			S. Galant, repairer	112 00	Sept.	3, 1902	
	Ile Michon	3	Mrs. H. Boudreault, op'r	25 p c. commission	Aug.	26, 1915	
33	Natashquan	18	W. Vignault, op'r.	50 p.c. commission	Oct.	20, 1911	
			C. Vignault, repairer	112 00	Sept.	5, 1902	Main battery, $12 per year.
34	Kegaska	33	Miss Anderson, opr.	100 00	Sept.	6, 1902	
			Geo. Anderson, repairer.	112 00	Sept.	6, 1902	
35	Masquaro	18	J. L. Osborne, insp.	500 00	Nov.	6, 1910	Plus 50 cents per day when absent on duty.
			Mrs. Jennis, operator.	100 00	April	1, 1906	
			Wm. Foreman, repairer.	112 00	June	1, 1903	
36	Romaine	25	Mrs. A. Guillemette, opr.	100 00	Sept.	17, 1902	
			M. Blais, repairer	112 00	Sept.	17, 1902	
37	Wolf Bay	24	Mrs. R. Jones, operator.	100 00	Nov.	26, 1902	
			R. Jones, repairer	150 00	Nov.	26, 1902	
38	Point au Maurier	24	Miss P. Galibois, opr.	100 00	Sept.	19, 1902	
			J. Galibois, repairer	112 00	Sept.	19, 1902	
39	Harrington	20	Mrs. Jones, operator	125 00	Sept.	20, 1902	Tel. allowance $25 per year for repeating messages with Harrington Island since June 15, 1909.
			J. Jones, repairer	112 00	Sept.	20, 1902	
40	Whale Head	17	Mrs. P. Blais, operator	100 00	Oct.	25, 1915	
			P. Blais, repairer	112 00	Oct.	25, 1915	
41	Mutton Bay	20	Mrs. A. Landry, agt.-opr.	444 00	Aug.	1, 1911	
42	Baie de Ha ! Ha !	27	Mrs. J. Monger, opr.	100 00	June	14, 1904	
			J. Monger, repairer.	112 00	June	14, 1904	
43	St. Augustine	27	C. F. Johnson, rep. & opr.	212 00	Sept.	1, 1913	Hudson Bay Co. post.
44	Chicatica Bay	24	Miss Esther Robin	100 00	June	30, 1906	
			George Robin	112 00	June	30, 1906	
45	Rocky Bay	15	James Kennedy, opr. and repairer	212 00	July	27, 1911	
46	Old Fort Bay	15	J. Fequet & son William	25 p.c. commission	Mar.	29, 1911	
47	Bonne Espérance	7	G. Chevalier, repairer	112 00	Oct.	2, 1902	
			Miss Chevalier, operator.	110 00	Oct.	2, 1902	
48	Brador Bay	29	A. Blais	112 00	May	11, 1915	
			Cyrille Joncas, repairer.	110 00	Oct.	10, 1909	
			A. Cormier, gen. rep.	500 00	Aug.	16, 1910	Plus 50 cents when absent on duty.
49	Long Pt. of Blanc Sablon.	3	" agent	25 p.c. commission	Sept.	1, 1911	
50	Blanc Sablon	3	Thos. Morel, operator	212 00	Oct.	1, 1902	
51	Forteau Bay	13	A. Hart, rep. and opr.	212 00	July	19, 1902	

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

CHICOUTIMI AND NORTH SHORE OF ST. LAWRENCE TELEGRAPH—*Continued.*

NORTH SHORE (East of Bersimis)—*Continued.*

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
52	Pointe Amour	17	Thos. Whyatt, rep. and operator	112 00	Feb. 17, 1903	Main battery removed from West St. Modeste to Pt. Amour on Oct. 5, 1909, allowance $50 per yr.
53	West St. Modeste	16	Jas. Bolger, rep. and opr.	212 00	Oct. 5, 1902	
54	Red Bay	13	Geo. Moore, repairer	112 00	Oct. 9, 1902	
			Miss Moore, operator	100 00	Oct. 9, 1902	
55	Chateau Bay	30	J. Bolger			Office open Aug.-Oct., 1912. Salary, $35 per month.
56	Belle Isle (cable)					Cable removed June 18, 1909.
	Totals	914		13,678 00		

LINE REPAIRERS, SECTIONS AND MILEAGE—MURRAY BAY TO CHATEAU BAY.

		Mileage.
A. Villeneuve, repairer	Murray Bay to Baie des Rochers	35
G. Boulianne, repairer	Baie des Rochers to Bergeronnes	29½
G. Boulianne, repairer	St. Catherines Bay to St. Etienne branch line	17
Ed. Courbron, repairer	Bergeronnes to Rivière Colombier (16 miles west of Bersimis)	67½
Jos. Gagnon, repairer	Rivière Colombier to West Crossing Rivière aux Outardes (24 miles east of Bersimis)	40
David Malouin, repairer	East Crossing of Rivière aux Outardes to English Bay (7 miles east of Manicouagan)	44
Wm. Montreuil, repairer	English Bay to St. Nicholas Harbour (14 miles west of Godbout)	27
N. A. Comeau, repairer	St. Nicholas Harbour to Pointe des Monts	32½
P. C. Vigneault, gen. repairer	Pointe des Monts to Thunder River	196¼
Ed. Cyr, gen. repairer	Thunder River to Kegaska	197½
J. L. Osborne, gen. repairer	Kegaska to St. Augustine	202
A. Cormier, gen. repairer	St. Augustine to Chateau Bay	185
		1,073½

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

GROSSE ISLE QUARANTINE TELEGRAPH SYSTEM.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
1	Quebec	0	Great Northwestern Telegraph Co.	185 00		This amount is paid for supervision of the line, and covers rent of pole line from Quebec to L'Ange Gardien, for which $35 per annum is charged
	L'Ange Gardien	13				
	Orleans Island (cable).					
2	St. Pierre	4½	E. Gendreau	50 00 or commission.	Dec. 1, 1910.	This commission is 25 p. c. of the Government line tariff in each instance, and guaranteed to amount to not less than $50 per annum.
3	St Pétronille	3¼	Desneiges Plante	50 00 "	Oct. 1, 1896.	
4	St. Laurent	6½	M. Gobeil	120 00 and 25 per cent commission.	Sept. 15, 1888.	
5	St. Jean	7	P. Pouliot, dist. supt	1,120 00 & 25 per cent commission.	Nov. 1, 1907.	For local agency. Dist. Supt. and repairer.
6	St. François	6⅝	Helene Lemelin	50 00 or commission.	Oct. 1, 1907.	
7	Isle Reaux (including 2 knots cable).	3¼				
	Isle Reaux (land line)	2¼				
8	Grosse Isle Quarantine office (including 2 knots cable).	3½	A. Dancause	540 00	Nov. 1, 1912.	$5 per month for messenger service in summer and $12 per annum allowed for care of main batt. at Grosse Isle.
	Quarantine telephone system, 2 wire line.	1¾				NOTE—The telephone system on Grosse Isle since May, 1893, has comprised 1¾ miles of 2 wire line with 25 connections or stations.
	Grosse Isle to Crane Island (including 5 knots cable.)	8	Hector Lavoie	50 00 or commission.	Feb. 1, 1912.	
			Fenelon Pinchard	accommodation.	" "	
			Olivier Gagné	"	" "	Connection with the Bell Telephone System at Montmagny. Four stations on Crane Island.
9	Crane Island to Montmagny (cable).	5	Désiré Vezina	Signal Service Lighthouse	Sept. 1, 1909.	
			Numa Vézina	Accommodation	Feb. 1, 1912.	
			Chas. P. Roy		Nov. 1, 1913.	
			Jos. Lemieux		" "	
10	Crane Island to Goose Island.	10	E. Bernier	Accommodation	" "	
			Alf. Roy	"	" "	
					" "	

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

GROSSE ISLE QUARANTINE TELEGRAPH SYSTEM—*Continued.*

No.	Stations.	Intermediate distance.	Agents.	Salaries per annum.	Date of appointment.	Memo.
	Loop.					
11	St. François—St. François Nord	5	J. Asselin	50 00 or commission.	April 1, 1912.	
12	St. Jean—Ste. Famille	5½	Nap. Pichette	50 00 "	Aug. 21, 1912.	
	Totals	86¾		$2,268 00		

NOTE—In addition to the above there is included in the Quarantine Dist. Superintendency the undermentioned lines :—

	Telephone Lines.					
	Les Eboulements Ile aux Coudres (cable) On Ile aux Coudres	0 3 10	....	....	....	Leased to the Charlevoix and Saguenay Telephone Company.
		13				

ORLEANS ISLAND TELEPHONE LINE.

1	St. Pierre	0	Francis Côté	50 00 or commission.	July 1, 1911.	
2	Ste. Pétronille	3¼	Desneiges Plante	240 00	April 1, 1911.	Allowance of $6 per month for messenger service.
3	St. Laurent	6½	Laurent Godbout	50 00 or commission	July 1, 1911.	
4	St. Jean	7	Pierre Pouliot	50 00 "	Dec. 1, 1910.	
5	St. François	6¾	Xavier Lepage	50 00 "	July 1, 1912.	Government line connects with the Bell Telephone Co.'s line at L'Ange Gardien. Exchange connections made at Ste. Pétronille.
6	St. François-Nord	5	Frs. Lessard	50 00 "	Dec. 1, 1910.	
	Branch.					
7	St. Jean—Ste. Famille	5½	Jos. Premont	50 00 "	Dec. 1, 1910.	
		34	Pole line : 34 miles	Wire : 68 miles.		

BEAUPORT-LAVAL TELEPHONE LINE.

	Quebec—Beauport						
	Beauport		Bell Telephone Co.				
1	Laval		I. Maheux	25 p. c. commission	Jan.	1, 1914.	Connection at Beauport with the Bell Telephone System.
2	Ste. Thérèse		M. Boutette	25 p. c. commission	Jan.	1, 1914.	
3	Ste. Thérèse	2	N. Bédard	25 p. c. "	Jan.	1, 1912.	
4	St. Joseph		L. E. Binet	25 p. c. "	Jan.	1, 1914.	
5	Vallière's Mill	5½	A. Vallière	50 p. c. "	Feb.	1, 1910.	
6	Laval	7½	Rev. E. Giroux	Accommodation.			
7	Laval		Mrs. Touchette	50 00	Feb.	1, 1910.	*Commission is on Government line tolls only, and at Laval and Vallières Mill is guaranteed at the rate of $50 per year.
	Total	15					

CHARLESBOURG—LAKE BEAUPORT—STONEHAM TELEPHONE LINE.

8	Quebec—Charlesbourg	4	Bell Telephone Co.	$ 64 p. a.	July	26, 1913.	
9	Lake Beauport	6	Mrs. J. Bigouette	25 p. c: Rcts.	Dec.	27, 1913.	
10	" " West	3	Mrs. Brown	"	Jan.	18, 1914.	
			Peres Aublon	Sub	Sept.	1, 1914.	
11	" "		J. Cloutier	"	April	2, 1914.	
			Dr. J. Stevenson	"	Jan.	9, 1915.	
12	" "		Mrs. Cummings	"	Sept.	1, 1914.	
13	" "		Mayor Murphy	"	Jan.	10, 1914.	
14	" "		Miss F. Simons	"	"	10, 1914.	
15	" "		C. E. Smith	"	"	15, 1914.	
16	Stoneham	18	J. Corrigan	$ 50 p. a.	Nov.	4, 1914.	
17	"		W. Craig	Sub	Jan.	15, 1914.	
			Rev. A. Labrecque		Dec.	22, 1915.	
18	"		S. Plamondon	Sub	Jan.	15, 1914.	
19	"		St. Vincent Club	"	Aug.	19, 1915.	
20	Martineau Mills	3	A. Martineau	25 p. c. Rcts.	Nov.	1, 1913.	
21	Tewkesbury	13½	W. Boyd	"	"	8, 1913.	
22	"		Donaconna	Sub	"	8, 1913.	
23	"		J. Isobel	"	April	30, 1914.	
24	"		Three Lakes Fish Club	"	"	29, 1914.	
25	Lake St. Charles	5	L. P. Verret	25 p. c. Rcts.	Nov.	4, 1913.	
26	" "		C. E. Begin	Sub	Dec.	6, 1913.	
27	" Huron	4	H. Gale	"	Nov.	8, 1913.	
28	Askewra Village	3	E. Laliberte	"	Dec.	5, 1913.	
29	Lac St. Charles		A. E. Seifert	"	Sept.	1, 1914.	
30	St. Ignace	7¾	E. Reaume	25 p. c. Rcts.	Feb.	25, 1914.	
31	"		J. Sansfacon	Sub	Feb.	25, 1914.	
32	Lorette	3	L. Bastien	"	Sept.	1, 1914.	
33	"		Dr. Verret	"	"	1, 1914.	
34	St. Gerard	8	A. Boivin	25 p. c. Rcts.	"	1, 1914.	
35	"	4					
36	River Jaune		Mrs. A. Michaud	$300 ann.	July	1, 1914.	Increased January 1, 1916.
	General Repairer		E. Martineau	$480 p. a.	Mar.	1, 1914.	
		97¾		$894.			

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

TIMISKAMING DISTRICT TELEPHONE LINES.

No.	Stations,	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.				
1	Kippewa Dam	0	J. A. Boisvert, Agent	25% commission	May 20, 1911	
	Denis	14½				
2	Fabre	6	L. Valiquette, Agent	25% "	May 20, 1911	
3	Ville-Marie	13	J. Samson, Agent	25% "	May 17, 1911	Resigned Sept. 15, 1911.
			Mrs. L. Lepage, Agent	25% "	Sept. 15, 1911	Guaranteed commission to $50 per annum.
			J. Dumulon, Supt. and General Repairer	$65 00 per month	Nov. 13, 1911	And expenses while out on repair work.
4	Lorrainville	5	N. Legault, Agent	25% commission	Sept. 1, 1911	
5	St. Eugène	13½	J. Bedard, Agent	25% "	Sept. 1, 1911	
6	Camp "B"	7½				
7	Camp "A" Quinze Dam	½	P. Carrière, Agent	25% "	Mar. 1, 1912	Previous to March 1, 1912, office was in charge of Mr. G. B. Hull, Engineer in Charge Construction Quinze Dam.
8	Camp "C"	5				
9	North Timiskaming	13½	J. R. Monaghan, Agent	25% "	Aug. 1, 1911	$15 per year is paid Mr. Monaghan for office rent and Exchange Connection with Timiskaming Telephone Company's Line.
	Branch.					
	Ville Marie	0				
	St. Isidore	3½	J. N. Legault	25% "	Dec. 1, 1912	(Branch starts from main line 10 miles NE. of Ville Marie.)
		82				

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

ONTARIO—PELEE ISLAND TELEGRAPH SERVICE.

STATEMENT showing List of Offices, Operators or Agents, Commissions or Salaries, and Summary of Messages exclusive of free messages. From March 31, 1915, to March 31, 1916.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Messages.		Date of appointment.	Memo.
					Sent.	Rec'd.		
		Miles.						
1	Dis't. Supt's. House	0	J. McR. Selkirk, Dist. Supt.	$50 00 per annum.				Private Instrument.
2	Leamington Office	0	" " "	Commission 20 p.c			Nov. 1, 1888	
	" "	24	To Cable Landing (mainland)				Aug. —, 1901	West of Leamington Dock.
	Mainland to Pelee Island	17¼	Cable to Pelee Island				Nov. 1, 1888.. / Aug. —, 1901..	Near Scudder, Pelee Island.
			Cable to Pelee Island connected with Pelee Island Municipal System				Nov. 4, 1913	" " "
			James E. Quick, repairer	$50 00 per annum.			April 11, 1911	Resides at Scudder, P. Id.
3	Baird's House (Leamington)	0¼	A. Baird	Commission 25 p.c.			Nov. 2, 1904	Distance given is from Cable landing.
4	Jackson & Moss (Pt. Pelee)	5	Jackson & Moss	" "			Mch. 25, 1910	Near Old Club House site.
5	Edward Ford (Pt. Pelee)	0	Edward Ford	Accommodation Office			Oct. 2, 1912	Deputy Game & Fish Warden.
6	Baird's House (Pt. Pelee)	2¼		" "			June 23, 1909	
7	Tilden's	0¼	W. Tilden	Commission 25 p.c.			April 29, 1905	
8	Point Pelee	2¾	J. W. Grubb	" "			Nov. 1, 1888	
9	Life Saving Station	0¼	L. Wilkinson	" "			June 11, 1914	
			Total messages for year					
	Pelee Island Municipal System.	0	Pelee Island Corporation; cable messages only					
	Total	30½						

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

NORTH WEST LINES—SASKATCHEWAN-QU'APPELLE-EDMONTON SECTION

No.	Stations	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of Appointment.	Memo.
				$ cts.		
1	Qu'Appelle	0	E. P. Benoit	120 00	Jan. 1, 1911	
2	Fort Qu'Appelle	17	P. R. Elmer	960 00	Aug. 15, 1906	
	Fort Qu'Appelle		D. Sutherland	900 00	Dec. 1, 1909	
	To Loop	10				
3	Lipton	1	Can. Pac. Ry	10 p.c. commission	May 1, 1906	
	To Main line	1				
4	Kutawa	45	A. Y. Lindeburgh	900 00	Nov. 1, 1883	
5	South Humboldt	78	H. J. Macdonald	900 00	Feb. 1, 1901	
	To Loop	58½				
6	Saskatoon	14	J. H. Murphy	1,200 00	Jan. 18, 1913	
	"		G. T. Clement, lineman	900 00	Oct. 16, 1903	
	"		Can. Pac. Ry. messenger	120 00	May 1, 1911	
	To Main line	11				
7	Henrietta	38	W. J. Salsbury	900 00	Oct. 1, 1886	
8	Battleford	47	J. T. Callahan	1,080 00	Dec. 1, 1900	Transferred from Bresaylor September 1, 1915.
	"		H. C. Rogers, lineman	900 00	Oct. 10, 1911	
	"		J. Redington, messenger	240 00	Mar. 20, 1916	
	"		J. D. Noel, dist. supt	1,800 00	Oct. 1, 1900	Promoted.
	"		T. F. Finnegan, clerk	900 00	Sept. 1, 1915	New appointment.
9	Delmas	18	D. E. Buck	720 00	Sept. 1, 1915	" "
10	Bresaylor	10	P. O. Bonenfant	900 00	Mar. 10, 1916	New office.
	To Loop	67½				
11	Lloydminster	29	W. E. West	900 00	Mar. 1, 1916	
	"		G. G. Mann, lineman	900 00	Aug. 1, 1902	H. A. Elliott, resigned, February 29.
	To Main Line	29				
12	Onion Lake	13	H. McCleneghan, circuit manager	1,200 00	Aug. 1, 1899	
	"		R. McCleneghan, asst	720 00	Dec. 1, 1913	
		490		17,160 00		

BATTLEFORD—ISLE A LA CROSSE SECTION.

Battleford	0	Main Time Table	$ cts.		
North Battleford	4	F. J. Colmer	1,080 00	Nov. 1, 1912	
North Battleford		L. Colmer, messenger	240 00	Mar. 1, 1916	
Cochin	21	R. Colmer	720 00	Mar. 1, 1916	New appointment.
Meota	10	F. W. Hearn	900 00	Nov. 1, 1913	
To main line	10				
Glaslyn	30	A. G. McCartney	900 00	Sept. 26, 1912	
Meadow Lake	66	J. R. McCordic	900 00	Sept. 9, 1912	
Green Lake	44	J. D. Davidson	900 00	Dec. 1, 1915	R. P. White transferred to Isle-à-La-Crosse.
Isle-à-La-Crosse	110	R. P. White	900 00	Dec. 1, 1915	
	295		5,820 00		

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

SASKATCHEWAN—NORTH-WEST TELEGRAPH LINE—MOOSEJAW—WOOD MOUNTAIN SECTION.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
1	Moosejaw	0	M. Kavanagh	1,020 00	Sept. 15, 1914	
	"		C. P. R. messenger	120 00	July 1, 1911	
	"		C. P. R. Battery	120 00	Feb. 1, 1912	
2	Expanse	39	G. T. Brown	900 00	Sept. 20, 1912	
	"		C. H. Clark, lineman	900 00	Sept. 1, 1913	
	To loop	25				
3	Gravelbourg	19	J. A. Hamelin	900 00	Sept. 8, 1910	
	To main line	19				
4	Limerick	13	E. Taylor	720 00	Jan. 1, 1916	M. Crosson transferred to Assiniboia.
	To loop	3				
5	Assiniboia	14	Myrtle Crosson	900 00	Jan. 1, 1916	R. Hodgson on military leave since Jan. 4, 1916.
	To main line	14				
6	Wood Mountain	27	J. H. Thompson	900 00	Dec. 1, 1890	
	"		F. Brown, lineman	900 00	Nov. 1, 1905	
7	Elm Springs	13	J. Gagnon	25 p.c. commission	Mar. 1, 1916	
8	Willow Bunch	26	M. A. Noel	900 00	Oct. 19, 1904	
		212		8,280 00		

BATOCHE—DUCK LAKE SECTION.

1	Batoche	0	Mr. Racette	25 % commission		
2	Duck Lake	9	J. K. Bryce	120 00	Feb. 1, 1916	C. A. Baker, resigned.
		9		120 00		

BRANCH TELEPHONE LINES.

FILE HILLS LINE.

1	Fort Qu'Appelle	0				This line was built in 1908 for the convenience of the Department of Indian Affairs exclusively.
2	Lebret	4				
3	Balcarres	11				
4	File Hills Agency	13				
		28				

KAMSACK LINE.

1	Kamsack, C. N. R	0				This line was built in 1907 for the Department of Indian Affairs. Kamsack is on the C. N. R. 100 miles Northeast of Fort Qu'Appelle and is in no way connected with the Government Telegraph line.
2	Dr. Wallace's office	0				
3	Indian Agency	6½				
4	St. Phillips Mission	5				
5	Hudson Bay Co. (Pelly)	7				
6	Keys Reserve	5½				
		24				

DUCK LAKE LINE.

1	Duck Lake, C. N. R	0				This line was built in 1902 for the use of the Department of Indian Affairs exclusively.
2	R. N. W. M. P	0½				
3	Indian agency	3				
		3½				

ASSINIBOIA RESERVE—SINTALUTA TELEPHONE LINE.

1	Sintalnta	0				This line was built in 1913 for the use of the Department of Indian Affairs exclusively.
2	Assiniboia Reserve	8				
		8				

GOVERNMENT TELEGRAPH SERVICE.

SASKATCHEWAN DIVISION.

Office.	Owned by	Rented from	Stable.	Battery.	Store room.	Monthly rent.
Battleford	Government					
Bresaylor		R. R. Farrell				15 00
Cochin		P. N. Paille				15 00
Delmas		Heon, E				15 00
Fort Qu'Appelle	Government					
Glaslyn	"					
Green Lake	"					
Henrietta		W. J. Salsbury				8 00
Isle La Crosse		Chas. Maurice				10 00
Kutawa		A. V. Lindeburgh				50 00 per annum
Lloydminster	Government		5 00			5 00
Meota	"					
Meadow Lake	"					
North Battleford	"					
Onion Lake	"					
Qu'Appelle		Office space free				
Saskatoon		Can. Pac. Ry				15 00
South Humboldt	Government					
Batoche		Office space free				
Duck Lake		" "				
Assiniboia		J. C. Banfield				12 00
Expanse		J. D. MacMillan				15 00
Expanse		A. Urquhart	10 00			10 00
Limerick		J. Crosson				15 00
Moose Jaw		Can. Pac. Ry				15 00
Moose Jaw		" "		5 00		5 00
Moose Jaw		Masonic Hall Co			5 00	5 00
Willow Bunch	Government					
Wood Mountain		Office space free				
Gravelburg	Government					

GOVERNMENT TELEGRAPH SERVICE.

SASKATCHEWAN DIVISION.

Station.	Number of horses.	Stable owned by	Rented from	Monthly rent.
Battleford	2	Government		
Glaslyn	2	"		
Green Lake	2	"		
Henrietta	2		Stable room free	
Kutawa	1		" "	
Lloydminster	2		G. G. Mann	5 00
Meadow Lake	2	Government		
Saskatoon	2		Stable room free	
Expanse	2		A Urquhart	10 00
Wood Mountain			Stable room free	Lineman supplies horses.
South Humboldt	2	Government		
	19			

No.	Stations.	Intermediate distance	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
				$ cts.		
11	Onion Lake					(Saskatchewan Division).
12	Frog Lake	23	E. A. Bowtell	600 00	March 1, 1911	
13	Mooswa	14	A. Bowtell	840 00	Dec. 1, 1907	
14	Elk Point	21½				Office closed.
15	St. Paul de Metis	19½	J. A. Gagnon	900 00	May 1, 1910	
16	Saddle Lake	18	C. B. Ingraham	900 00	July 1, 1912	
17	Pakan	39	R. McAdam	720 00	Feb. 1, 1905	
	To Loop	5				
18	Andrew	5	R. L. Pickell	900 00	Jan. 1, 1913	
	"		W. J. Lee, lineman	900 00	Jan. 5, 1914	
	Whitford	7	Postmaster	25 p.c. commission	July 1, 1910	This line transferred to Alberta Government telephone department January 1, 1916.
	Andrew to Main Line	5				
	To Loop	23				
19	Lamont	3½	W. Valliant	900 00	Nov. 1, 1914	
	To Main Line	3½				
20	Fort Saskatchewan	24	W. G. Shera	720 00	July 1, 1912	
21	Edmonton	18	P. R. Campbell	1,080 00	July 24, 1914	
	"		C. P. Samwell, assistant	1,020 00	June 1, 1913	Transferred from Athabasca.
	"		P. F. Camiff, assistant	1,020 00	Mar. 14, 1916	R. S. Shields, resigned.
	"		H. Hunt, clerk	1,080 00	Jan. 22, 1912	
	"		G. Wilder, relieving ag't	1,020 00	Dec. 1, 1908	Retired from service.
	"		J. McLean, lineman	900 00	Jan. 1, 1915	
	"		H. Packebusch, messen'r	300 00	Aug. 16, 1915	New appointment.
	"		R. Berry, messenger	300 00	Mar. 11, 1915	
	"		R. C. Maedonald, district superintendent	2,300 00	Oct. 1, 1905	
	"		J. S. Maedonald, general inspector	2,500 00	June 1, 1905	
	Total	222		19,080 00		

EDMONTON-PEACE RIVER SECTION.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
	Edmonton	0	Preceding table	25 p.c. commission	Jan. 1, 1910	
1	Halfway Lake	49	J. C. Egge	25 p.c. commission	Jan. 1, 1910	
2	Athabasca	49	A. H. Slight	900 00	Mar. 16, 1914	Transferred from Edmonton.
	"		A. W. Cass, lineman	900 00	June 19, 1912	
	"		F. Pettiford, lineman	900 00	Dec. 1, 1914	
	"		S. Grube, messenger	240 00	Sept. 1, 1915	E. Swanson resigned.
3	Mirror Landing	70	P. F. Hoyte	900 00	" 1, 1914	
	"		A. Parry, lineman	900 00	April 1, 1912	S. Green resigned.
4	Sawridge	38	R. H. Simpson	900 00	July 1, 1914	
	"		E. Goodwin, lineman	900 00	Nov. 17, 1914	
5	Giroux Bay	39				Office closed.
6	Gromard	39	C. A. Burpee, agent	900 00	Jan. 25, 1915	J. A. Powers resigned.
	"		J. A. Bell, lineman	1,020 00	Feb. 5, 1914	Retired from service March 1, 1916. No appointment made yet.
	"		M. L. Burpee, messenger	300 00	Mar. 1, 1916	E. W. Arnold resigned.
7	Peace River	83	A. F. Todd, agent	900 00	Oct. 30, 1914	
	"		M. L. Burnett, assistant	900 00	Aug. 15, 1915	
	"		F. Anderson, lineman	900 00	Oct. 23, 1912	
	"		T. Aaron, messenger	300 00	Aug. 23, 1915	J. A. Connery resigned.
8	Vanrena	62	H. L. Propst	25 p.c. commission	Jan. 1, 1912	
9	Dunvegan	12	A. Vaillancourt	900 00	Nov. 11, 1912	
10	Spirit River	15	W. R. Holden	900 00	July 1, 1912	
	To Loop	52				
11	Grand Prairie City	8	J. H. Byrne	900 00	Sept. 2, 1912	
			H. Henderson, messenger	300 00	March 1, 1916	New appointment
	To Main line	8				
12	Lake Saskatoon	8	G. Coleman	900 00	March 20, 1913	
	"		W. Lovel, lineman	900 00	June 1, 1914	
13	Beaver Lodge	12	B. L. Burnett	900 00	Oct. 19, 1915	New office.
14	Pouce Coupe	63	J. J. Dever	900 00	July 1, 1914	
15	Fort St. John	70	W. J. Reid	1,020 00	May 5, 1915	
16	Hudson Hope	62	R. M. Osborne	1,020 00	Aug. 5, 1915	
	"		J. D. Codenhead, lineman	900 00	Dec. 16, 1915	
	Total	740		21,300 00		

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

ATHABASKA—FORT McMURRAY LINE.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per Annum.	Date of appointment.	Memo.
				$ cts.		
0	Athabaska					
1	Calling River	39	W. Hood	900 00	August 15, 1915.	E. J. Collins, resigned.
2	Pelican	61	W. B. Twitchell	900 00	October 1, 1914.	
3	House River	55	E. Murphy	900 00	May 3, 1915.	J. H. Bell, resigned.
	"		F. Taylor, lineman	780 00	Sept. 1, 1915.	New appointment.
4	Fort McMurray	90	C. N. Hayes	900 00	March 25, 1915.	
	"		R. McRae, lineman	900 00	May 3, 1915.	New appointment.
		245		5,280 00		

ATHABASKA—LAC LA BICHE LINE.*

0	Athabaska					
1	Plamondonville	58	W. J. Amell	900 00	November 13, 1914.	
2	Lac La Biche	12	Father Le Goff	25 p. c. receipts and checks.	August 17, 1915.	
		58		900 00		

* See main line table, Peace river line

BRANCH TELEPHONE LINES.

No.	Stations.	Intermediate distance.	Agents and operators.	Salaries per annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
	Edmonton	0				This line was built in 1904 and is being operated from the Central Telephone office in Edmonton.
1	Winterburn	8½				
2	Indian Agency	5⅝				
3	Spruce Grove	8				
4	Stony Plain Centre St'n.	6½				
5	Stony Plain Centre	3½				
		32				
	Edmonton	0				This line has been in operation to St. Albert since 1887 and to Alexandre since 1902 and is operated from the Central Telephone office in Edmonton.
1	St. Albert	9				
2	Raye	12				
3	Rivière-Qui-Barre	8				
4	Alexandre	5				
		34				

GROUARD—PRAIRIE RIVER TELEPHONE LINE.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per Annum.	Date of Appointment.	Memo.
		Miles.		$ cts.		
0	Grouard	0				This line was built in 1912 and 1913. These telephones were installed at a rental basis to the parties named at an annual charge of $15, conditionally that they are also intended for the use of the public when wishing to reach our Grouard office for which a charge of 10 cents will be made.
1	B. A. See	3				
2	Martin Ouellette	5				
3	P. Tomkins	4				
4	D. S. Hayden	8				
5	Mr. McQue	5				
6	S. Harris	1				
7	O. D. Hill	2				
8	G. Martin	3				
9	J. Bennie	1				
10	L. Becker	2				
11	W. Lesage	3				
		37				

ST. PAUL DE METIS—DURLINGVILLE TELEGRAPH LINE.

0	St. Paul	See Main	line table.			
1	Rife	24	E. O. Boyd	900 00	Nov. 26, 1912	
2	Bonnyville	6	E. L. Dussault	600 00	Aug. 19, 1913	
3	Durlingville	18	L. T. McLeod	300 00	July 1, 1915	
		48		$1,800 00		

GOVERNMENT TELEGRAPH SERVICE.—*Continued.*

SADDLE LAKE LINE.

No.	Stations.	Intermediate distance.	Agents and Operators.	Salaries per Annum.	Date of appointment.	Memo.
		Miles.		$ cts.		
	Saddle Lake	0				This line was built in 1900 for the use of the Department of Indian Affairs exclusively.
1	Industrial School	6½				
		6½				

PEACE RIVER—SHAFTESBURY TELEPHONE LINE.

0	Peace River	0				This line was built in 1911. The telephones are installed on a rental basis of $15 per annum, conditionally that they are also intended for the use of the public when wishing to reach our Peace River office for which a charge of 10 cents will be made.
1	Collins	3				
2	R. C. Mission	5				
3	A. Brick	6½				
4	English Church Mission	½				
		15				

ALBERTA DIVISION.

Office.	Owned by	Rented from	Stable.	Store room.	Monthly rent.
			$ cts.	$ cts.	$ cts.
Andrew		R. L. Pickell			10 00
Athabasca	Government				
Athabasca		W. McLeod		2 50	2 50
Bonnyville		E. L. Dussault			10 00
Beaver Lodge		I. E. Gaudin			15 00
Calling River	Government				
Durlingville		Office space free			
Dunvegan		A. C. Larivière			20 00
Edmonton		Can. Pac. Ry			25 00
"		R. M. Macdonald	10 00		10 00
"		H. Hunt		10 00	10 00
Fort Saskatchewan		J. W. Kidney			15 00
Frog Lake		Office space free			
Fort McMurray	Government				
Fort St John		Révillon Frères			25 00
Grand Prairie		A. Patterson			20 00
Grouard	Government				
Halfway Lake		J. C. Egge			10 00
Hudson Hope		R. M. Osborne			20 00
"		"	5 00		5 00
House River	Government				
Lac La Biche		Office space free			
Lamont		Mrs. E. A. Holmes			10 00
Lake Saskatoon	Government				
Mirror Landing	"				
Mooswa	"				
Pakan	"				
Peace River	"				
Pelican		Office space free			
Plamondon		Chevigney Bros			20 00
Pouce Coupé		F. T. Haskins			20 00
Rife		Office space free			
Saddle Lake	Government				
Sawridge	"				
Spirit River		W. R. Holden			
St. Paul de Métis	Government				10 00
Vanrena		Office space free			

ALBERTA DIVISION.

Station.	Number of horses.	Stable owned by	Rented from	Monthly rent.
				$ cts.
Andrew	2		Stable rent free	
Athabasca	4	Government		
Calling River	2	"		
Dunvegan	2		Stable rent free	
Edmonton	2		R. M. Macdonald	10 00
Fort McMurray	2	Government		
Fort St. John	2		Stable rent free	
Gronard	2	Government		
Hudson Hope	2		R. M. Osborne	5 00
Lake Saskatoon	2	Government		
Mirror Landing	2	"		
Moowa	2	"		
Peace River	2	"		
Pelican	4 dogs.			
Ponce Coupé	2		Stable rent free	
Rife	2		" "	
Saddle Lake	2	Government		
Sawridge	2	"		
	36 horses. 4 dogs.			

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

KAMLOOPS—OKANAGAN—KOOTENAY LINES.

KAMLOOPS—VERNON SECTION, VIA. NICOLA, 514 MILES.

No.	Stations.	Intermediate distance.	Agents and Operators.	Position.	Salary per month.	Date of appointment.	Remarks.
		Miles.			$ cts.		
1	Kamloops	0	W. H. Stevens	Superintendent	150 00	March 1914	
	"		Miss V. L. Palmer	Clerk	60 00	Oct. 1911	
	"		Miss M. H. Palmer	Stenographer	50 00	Feb. 1913	
	"		F. A. Tripp	Accountant	70 00	Sept. 1915	
	"		Supt. Offices	Rent	30 00		
	" agent long distance office		Miss Grace Ellis	Agent	50 00	Mar. 31, 1915	
	" "		Miss Grace Tait	Operator	40 00	July, 1915	
	" "		W. T. Slavin	Night operator	35 00	March, 1916	*Re* Mrs. Shelton resigned.
	" "		Bernard Hirst	Bookkeeper	35 00	Sept., 1912	*Re* Mrs. Cornish resigned.
	" "		Vincent Beckwith	Messenger	20 00	" 1914	
	" "		Long distance office	Rent	20 00		
	" "		Warehouse and workshop	"	12 00		
	" "		A. J. Woodburn	Line Foreman	100 00	April 1915	
2	Knutsford	5	C. Taylor	Agent	20% Comm'n	Dec., 1914	
3	Goose Lake	7	R. Burgess	"	"	" 1915	Spur 7 miles from Knutsford.
4	Bulman	12	J. Bulman	"	"	July, 1909	
5	McDonalds	5	J. F. McDonald	"	"	" 1910	*Re* W. R. McDonald deceased.
6	Stump Lake	4	J. Whitford	"	"	" 1910	
7	Frasers	3	M. Fraser	"	"	" 1905	Spur 3 miles from Stump Lake.
8	Rockford	4	Mrs. D. C. Wilson	"	"	" 1914	
9	Moores	4	Jos. Guichon	"	"	" 1905	
10	Guichons	3	"	"	"	" 1913	Spur from Quilchena.
11	Lauders	5	Wm. Lauder	"	"	" 1913	" "
12	Douglas Lake	16	F. B. Ward	"	"	" 1913	" "
13	Quilchena	9	J. A. Guichon	"	"	May, 1907	
14	Nicola	9	Mrs. M. V. Munro	"	Sal'y $50 00	July, 1905	Local exchange of 8 subscribers.
15	Merritt	7	Miss D. P. McGoran	"	50 00	Nov., 1913	" 81 "
	"		Miss Nellie Heslop	Operator	35 00	" 1913	
	"		Miss Irene McGoran	Night Operator	35 00	April 1913	
	"		M. T. Royds	Lineman	80 00	Nov. 1913	
			Office Rent		20 00		

16	Coutlee	3	H. S. Cleasby	Subscribers					Spur from Merritt.
17	Lower Nicola	4	Tipperary Ranch	"					" "
18	Canford P.O.	2	H. T. Sheldon	Agent	20%	Comm'n	Sept.,	1915	" "
19	Canford Mills	2	Canford Saw Mill Co.	Subscriber		"			" "
20	S. X. Ranch	11	W. Thompson	Agent	20%	Comm'n	Feb.	1914	
21	Crowders	7	F. Crowder	"		"	Oct.,	1911	
22	Aspen Grove	6	W. Augstadt	"		"	Aug.,	1914	
23	Hastings Ranch	7	C. R. Batterton	"		"	"	1911	
24	Canyon House	6	A. B. Roberts	"		"	March,	1915	
25	Otter Valley	12	J. G. Thynne	"		"	Oct.,	1907	
26	Tulameen	7	J. Schubert	"		"	Sept,	1911	
27	Coalmont Collieries	3	A. N. Cantril	"		"	March,	1914	
28	Coalmont	1	I. McTavish	"		"	July,	1913	
29	Granite Camp	3	F. P. Cook	"		"	Dec.,	1911	
30	Roany's Camp	8	J. O. Coulthard	"		"	July,	1914	
31	Princeton	3	A. Bell	"	Salary	50 00	Aug.,	1908	Local exchanges, 47 subscribers.
	"		J. Day	Operator		40 00	May,	1915	
	"		L. Woodburn	"		40 00	"	1915	
	"		F. W. Phillipps	Lineman		80 00	Aug.,	1915	
			Office rent	per month		15 00			
32	Copper Mountain	12	T. J. Largue	Agent	20%	Comm'n	Jan. 1,	1915	Spur from Princeton.
33	Voigts Camp	2	Mrs. M. Voigt	"		"	"	1915	" "
34	Hedley	25	F. M. Gillespie	"		40 00	Aug.,	1909	Local exchange, 14 subscribers.
			Office rent	per month		5 00			
35	Keremeos (including Richters)	20	F. Gibson	Agent		50 00	Nov.,	1914	" " 15 "
		18	S. J. McCuddy	"		20 00	July,	1909	Switching office for Fairview-Midway line.
36	Fairview	9	Mrs. K. Mackenzie	"	20%	Comm'n	July,	1914	
37	Vasseau Lake	10	W. B. Hine	"		"	Oct.,	1908	
38	Okanagan Falls	7	A. S. Hatfield	"		"	Oct.,	1910	
39	Kaleden	8	H. F. Lush (*re* W. S. Parker)	"		"	Dec.,	1915	Spur from Kaleden.
40	Marron Lake	11	Miss Carrie Crowe	"		60 00	Nov.,	1912	
41	Penticton		Mrs. J. M. Johnston	Telephone opr.		60 00	May,	1915	Previously at Kelowna.
	"		J. S. Clark	Night operator		35 00	Nov.,	1915	
	"		C. F. Layton	Lineman		80 00	"	1911	
	"		Neville Shaw	Messenger		10 00	March,	1915	
			Office Rent	per month		25 00			
42	Summerland	11	W. H. Hayes	Agent & Tel. opr.		75 00	July,	1906	
			Office rent	per month		10 00			
43	Peachland	18	A. W. McDougald	Agent	20%	Comm'n	Aug.,	1912	
44	Gellatlys	2	D. E. Gellatly	"		"	July,	1914	
45	Glen Rosa	3	W. C. Hitchner	"		"	"	1914	Spur 3 miles.
46	Westbank	17	Mrs. A. Marron	"		"	March,	1915	
47	Kelowna	3	H. H. Millie	" & Tel. opr.		80 00	Nov.,	1912	
			Eleanor Pennell	Telephone opr.		40 00	"	1912	
			Office rent	per month		12 00			
48	Okanagan Mission	4	J. H. Thompson, *re* R. F. Dodd	Agent	20%	Comm'n	March,	1914	Spur 4 miles from Kelowna.
49	Oyama	17	F. A. Rimmer, *re* B. F. Scott, enlisted	"		"	June,	1915	

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

KAMLOOPS VERNON—PENTICTON *Continued.*

No.	Stations.	Intermediate distance.	Agents and Operators.	Position.	Salary per month.	Date of appointment.	Remarks.
		Miles.			$ cts.		
50	Okanagan Centre	3	J. A. Gleed	Agent	20% Comm'n	Mar., 1910	Spur 3 miles from Oyama.
51	" Landing	4	P. R. Finlayson *re* T. L. Tibbs	"	"	April, 1915	" 4 " Vernon.
52	Vernon	18	Mrs. B. Stewart	Agt. & Tel. Opr.	85 00	Aug., 1913	
			Marjorie Lifford	Telephone Opr.	40 00	July, 1914	
			Vera Glover	Night Operator	35 00	May, 1915	
			J. Hatfield	Messenger	20 00	Sept., 1914	
			R. F. Wright	Lineman	80 00	July, 1914	
			Office rent	per month	25 00	Up to Mar. 31, 1916, (now P. O. Bldg.).	
53	Lumby	16	H. Saddler	Agent	5 00	Mar., 1914	
54	Rollings Lake	1	Mrs. C. McDonald	"	20% Comm'n	Dec., 1914	Spur 26 miles from Vernon.
55	Shuswap Falls	9	F. Finlayson	"	"	" 1914	
56	Falklands	27	Dr. White	"	"	Feb., 1915	
57	King's Ranch	14	F. King	"	"	July, 1915	
58	Grande Prairie	4	E. W. Hoole	"	"	April, 1914	
59	Wilkinson Ranch	12	F. F. Wilkinson	"	"	June, 1915	
60	Holmwood	4	A. Duck	"	"	Nov., 1911	
61	Barnes	4	Geo. Barnes	Agent	20% Comm'n	Jan., 1913	
62	Ducks	5	W. M. Anderson *re* Hemingway enlisted	"	"	Feb., 1916	Spur from Holmwood.
63	Pioneer Poultry Ranch	13	R. A. Barton	"	"	Oct. 1913	
63	Kamloops	5					

NORTH THOMPSON SECTION.

64	Austin Ranch	12	W. R. Austin	Agent	20% Comm'n	April 1914	
65	Heffley Creek	2	H. McDaniels	"	"	Mar. 1914	
66	Holford Ranch	6	G. Arnell	"	"	" 1916	
67	Black Pines	2	Alex. McLean	"	"	" 1916	Spur 2 miles from Holford Ranch.
68	Twenty-five Mile House	5	J. McCarten	"	"	Nov. 1908	

69	Potters Flat	4	E. H. Jones	"	"	"	1914	
70	Louis Creek	7	S. Armour	"	"	April	1914	
71	Barrière	4	J. H. Nelson	"	25 00	Sept.	1915	
72	Varriere Power House	4	M. Armour	"	20% Comm'n	July,	1915	Switching Office *re* change at Geniers.
73	Borthwicks	2	Geo. Borthwick	"	"	April	1911	Branch line from Barriere Office on East Side of North Thompson River.
74	Geniers	2	Mrs. A. Genier	"	Com. Office (since Sept. 1915)	June	1913	
75	Chu Chua	12	Geo. Fennell	"	" "	"	1913	
76	Nelson Ranch	4	C. Nelson	"	20% Comm'n	Nov.,	1915	Branch line on west side of North Thompson River from Barrière.
77	Chinook Cove	2	W. W. Elder	"	"	June,	1913	
78	Smiths Ranch	3	J. J. Smith	"	"	Oct.,	1915	
79	Mount Olie	11	T. J. Kingscote	"	"	June,	1913	
	Total	82						

KAMLOOPS—SAVONA SECTION.

					Commission			
80	Iron Mask	7	E. G. Wallinder	Agent	20 %	Aug.	1914	
81	Cornwalls	4	Henry Cornwall	"	"	Oct.	1913	
82	Cherry Creek	4	B C. Fruit Lands Co.	"	"	"	1914	
83	Savonas	11	P. Maigetts	"	"	Nov.	1914	
84	Monarch Lumber Co	1	"	"	"	Sept.	1915	Spur 1 mile from Savonas.
85	Bakers	0	H. J. Baker	"	"	July	1915	
		27						

KAMLOOPS—ROSE HILL SECTION.

					Commission.			
86	Daytons	5	Dayton Bros.	Agent	20 %	June	1914	
87	Baths	1	Geo. Bath	"	"	Feb.	1915	
88	Rose Hill	1	Angus McKay	"	"	March	1911	
89	Barnharts	5	P. A. Barnhart	"	"	Jan.	1911	
90	Barnhartvale	2	A. Holt	"	"	May	1914	
		14						

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

KAMLOOPS, OKANAGAN AND KOOTENAY LINES.

SHUSWAP—NOTCH HILL TO TAFT SECTION.

No.	Stations.	Intermediate distance.	Names.	Position.	Salary per month.	Date of appointment.	Remarks.
		Miles.			$ cts.		
91	Duck Ranch	26	Mrs. A. Allen, (*re* A. Allan deceased)	Agent	Commission. 20 %	March 1915	
92	Charlton Ranch	2	W. Charlton	"	"	Aug., 1915	
93	Sinclair "	3	H. Sinclair	"	"	March, 1915	
94	Martin Prairie	3	H. Brett	"	"	" 1915	
95	Pritchard	5	W. T. Pritchard	"	"	" 1915	
96	Shuswap	10	C. Byers	"	"	" 1915	
97	Chase	3	W. Cameron	"	35 00	Sept., 1915	Local Exchange, 22 Subscribers.
	Adams Lake		*re* R. P. Bradley & Son	Was Comm. Office previous.		" 1915	
	Adams River Lbr Co		Now on Chase Exchange				
			Office rent	per month	5 00		
98	Celestia	27	John Reilly	Agent	20% Comm'n	March, 1915	
99	Scotch Creek	1	T. Morris	"	"	Sept., 1915	
100	Sorrento	2	F. Syson	"	"	March, 1915	
101	Notch Hill	3	W. Chamberlain	"	"	" 1915	
102	Tappen	9	H. Colquhoun	Agent	20% Comm'n	March, 1915	
103	Gleneden	4	R. Kirkpatrick	"	"	Aug., 1915	
104	Laitenens	3	Gus. Laitenen	"	"	Sept., 1915	
105	Salmon Arm	4	W. Holliday	"	10 00	March, 1915	Switching Office.
106	Enderby	17	Enderby Fruit Growers (*re* Teece & Son)	"	20% Comm'n	"	
107	Grindrod	6	J. Monk	"	"	"	
108	Mara	6	E. Hine	"	"	"	
109	Interment Camp	11	Capt. Mitchell	"	"	Sept., 1915	
110	Sicamous	2	W. Finlayson	"	"	March, 1915	
111	Solsqua	6	F. Bossley	"	"	"	
112	Malakwa	7	M. Crawford	"	"	"	
113	Craigellachie	5	J. E. Paulding	"	"	"	
114	Taft	5	John Markstrom	"	"	"	
115	Revelstoke	24	W. Cowan	"	"	Jan., 1916	
		194					

FAIRVIEW TO MIDWAY SECTION.

116	Osoyoos	16	G. S. Jermyn	Agent	Commission	Feb., 1915	
117	Oroville	2	L. R. Anderson	"	"	"	
118	Perry's Ranch	12	W. W. Perry	"	"	Nov., 1915	
119	Bridesville	6	W. Johns, *re* T. Donald	"	"	March, 1916	
120	Rock Creek, (Riverside now same as Rock Creek.)	8	Rock Creek Trading Co.	"	"	Feb., 1915	
121	Midway	12	E. L. Salter	"	"	"	
122	Midway Customs House	1	R. D. Kerr	"	"	"	
		57					

WHITEMANS CREEK TO KELOWNA SECTION.

123	Bears Creek	4	H. C. Childers	Agent	20% Comm'n.	March, 1915	
124	Wilson Landing	4	H. C. Browse	"	"	"	
125	Nahum	6	H. B Kinnard	"	"	"	
126	Fintry	6	J. D. Godwin	"	"	"	
127	Ewings	3	W. W. Calquhoun	"	"	"	
128	Killiney	2	H. Hodges	"	"	"	
129	Mabees	1	O. S. Mabee	"	"	"	Closed December, 1915 to March, 1916.
130	Whitemans Creek	4	V. Willett	"	"	"	
		30					

NELSON TO TRAIL SECTION.

131	Nelson	0	B.C. Tel. Co	Agents	No Comm'n.	Feb., 1915	Switching charge of 5 cents call.
....	Nelson	0	P. Bard	Lineman	$ 80.00	May, 1915	
132	Hall Siding	11	Mankin Lbr. Co.	Agent	20% Comm'n	Feb., 1915	
133	Ymir	8	G. S. Coleman	"	"	"	
134	Salmo	9	Salmo Trading Co.	"	"	"	
135	Erie	4	J. E. Ried	"	"	"	
136	Meadows	2	W. J. Wilson	"	"	"	
137	Fruitvale	6	W. R. Mellard	"	"	"	
138	Columbia Gardens	7	Mrs. J. Burrows *re* Hine	"	"	Jan., 1916	
139	Waneta	5	D. H. Galbraith	"	"	Feb., 1915	
140	Trail	9	B. C. Tel. Co.	"	No Comm'n.		Switching charge of 5 cents call.
		61					

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

PROCTOR TO SIDAR SECTION.

No.	Stations.	Distance.	Names.	Position.	Salary.	Date of appointment.	Remarks.
		Miles.			$ cts.		
141	Proctor	6	G. Snow	Agent	5 00	Mar., 1915	Switching Office.
142	Kootenay Bay	5	W. Langford	"	20% Comm'n.	" 1916	
143	Crawford Bay	9	Mrs. H. Dee	"	"	" 1915	
144	Crawford Bay Wharf	1	O. H. Burden	"	"	" 1915	
145	Harrison Ranch	4	M. J. Harrison	"	"	" 1915	
146	Grays Creek	4	A. F. Lymbery	"	"	" 1915	
147	Boswell	16	J. Coupland	"	"	" 1915	
148	Kuskanook	8	Mrs. R. Jones *re* C. Wright deceased	"	"	" 1916	
149	Sidar	5	T. Rodgers	"	"	" 1915	
150	Creston	13	W. J. Crawford	"	"	Jan., 1916	
		61					

NAKUSP—EDGEWOOD SECTION.

151	Nakusp	0	L. J. Edwards	Agent	50 00	Dec., 1912	
	"	0	Office Rent	Per month	10 00		
152	Rock Island	14	D. A. Middlemass	Agent	20% Comm'n	1914	
153	East Arrow Park	4	Jas. Naylor	"	"	Feb., 1916	
154	West Arrow Park	1	J. M. Scott	"	"	Mar., 1915	
155	Riverdale	1	A. E. Keefer	"	"	Feb., 1916	
156	Burton City	5	Robt. Stevens	"	"	Dec., 1912	
157	West Demars	10	A. L. May	"	"	Mar., 1915	
158	Fauquiers	3	F. G. Fauquier	"	"	Dec., 1912	
159	Scarwood	1	G. H. Heaton	"	"	June, 1915	
160	Needles	2	A. W. Lift	"	"	Dec., 1912	
161	Edgewood	13	W. J. Banting	"	"	" 1912	
162	Army Svc. Corp	0	L. J. Edwards	"	No Comm'n.	Sept., 1915	
163	Prov. Road Supt	0	J. Black	"	20% Comm'n.	Dec., 1915	
164	Int. Camp	6	Sgt. Logan	"	"	Sept., 1915	
		60					

GOLDEN—WINDERMERE SECTION.

165	Golden	0	Mrs. B. Shaw	Agent	65 00	Dec., 1915	*Re* Miss Kenny resigned.
			Miss. D. Tennant	Operator, (Tel.).	35 00	Mar., 1915	
			J. F. Coates	Lineman	80 00	May, 1915	*Re* E. J. Tennant enlisted.
			Office Rent	Per month	15 00		
166	Nicholsons	6	C. Nicholson	Agent	20% Comm'n.	Mar., 1915	
167	Canyon Creek	3	W. J. Hobert	"	"	" 1912	
168	Parsons	15	F. G. Ball *re* J. Hawkins	"	"	Nov., 1915	
169	Spillamacheene	18	H. G. McDonald	"	"	" 1912	
170	Heffners Ldg	1	H. G. Low	"	"	" 1912	
171	Castledale	4	McKeemans	"	"	Dec., 1915	
172	Mitchell	3	A. H. Mitchell	"	"	Nov., 1912	
173	Brisco	1	A. Wolfenden	"	"	Feb., 1915	
174	Thatchers	4	E. G. Thatcher	"	"	July. 1915	
175	Edgewater	8	Col. Valley Orchards	"	"	Nov., 1913	
176	Radium Hot Springs	2	J. McCullough	"	"	Sept., 1915	
177	Athalmer	13	Mrs. M. H. Hope	" & Opr	65 00	Apr., 1912	
			Miss D. Turner	Operator	35 00	" 1915	
178	Invermere	1	Invermere Const. Co	Agent	20% Comm'n.	July, 1914	On Athalmer local exchange.
179	Wilmer	3	Wilmer Mercantile Co	"	"	" 1915	" " "
180	Windermere	6	J. C. Pitts	"	"	" 1912	" " "
		88					

GOVERNMENT TELEGRAPH SERVICE—VANCOUVER ISLAND LINES

VICTORIA BAMFIELD SECTION.

Stations.	Intermediate Distance.	Names.	Position.	Salaries per month or Commission.	Date of appointment.	Remarks.
	Miles.			$ cts.		
Victoria	0	Jas. McNeil	Agent	95 00	April 1, 1911	
"		Wm. Harker	Messenger	35 00	Oct. 1, 1913	
Luxton	9	Geo. Heaslip	Agent	25 p. c. Commission	April 30, 1915	Vice P. E. Ried, resigned.
Gents	8	Sarah Gent	"	" "	June 1, 1911	
"		Aaron Gent	Lineman	85 00	April 1, 1911	
Coopers Cove	1	Closed June 15, 1915				
Sooke	½	Isabella Milne	Agent	50 00	Sept. 1, 1913	Office Rental $5.00 per month from Sept. 1, 1913.
Rocky Point	14	Thos. Parker	"	25 p. c. Commission	Nov. 13, 1914	
Otter Point	6	Mrs. K. Gordon	"	50 00	Oct. 1, 1908	
Jordan River	14	Mrs. C. McVicar	"	25 p. c. Commission	Oct. 1, 1911	
"		J. N. McVicar	Lineman	85 00	June 1, 1909	
Slide Hill	11	Alex. Allan	"	85 00	Nov. 13, 1915	Vice D. H. Soule, resigned.
Port Renfrew	14	P. C. Munn	Agent	80 00	Aug. 2, 1915	Vice A. M. Falconer, resigned.
"		F. M. Baird	Lineman	85 00	Nov. 1, 1908	
Camp Bay	17	A. McLennan	"	85 00	Aug. 1, 1911	
Carmanah	8	Edward Arnold	"	85 00	June 1, 1912	Transferred from Clo-oose.
Clo-oose	7	Mrs. S. J. Logan	Agent	25 p. c. Commission	April 1, 1915	Vice Miss C. Logan, resigned.
"		David Logan	Lineman	85 00	" 1, 1898	
Pachena	15	Wireless office				Cut-in for test station.
Bamfield	15	W. A. McGee	Agent	90 00	July 1, 1915	Vice C. M. Ross, resigned.
"		W. B. Monette	Lineman	85 00	Nov. 23, 1913	
Sooke Exchange	22					
Victoria.						
Wireless Station	4	Accom'dation office				
Prov. Govt. Bldgs	½	A. E. Starr	Agent	25 p. c. Commission	Nov. 27, 1914	
	169					

Telephones have been installed on this line for the use of Pachena Lighthouse, Life Saving Patrol Hut Tsusiat and Seven Mile River (latter two places for the winter months only); Agent Mrs. Gordon, Otter Point; Lineman McVicar, Jordan River; Lineman Allan, Slide Hill; Lineman Baird, Port Renfrew, Lineman McLennan, Camp Bay; Lighthouse Carmanah; Agent Munn, Port Renfrew; Lineman Arnold, Carmanah; Agent Logan, Clo-oose; Lineman's Shelter hut; Agent McGee, Bamfield, Life Saving Station, Bamfield, Lighthouse; Cape Beale, (latter on line maintained by Marine and Fisheries Department.)

Lineman Gent looks after the main line, Victoria to and including Sooke; also Rocky Point line.

ALBERNI-BAMFIELD SECTION.

Alberni	0	Mrs. P. A. Haslam	Agent	65 00	Dec. 1, 1902	$5 per month allowed for office rent.
Port Alberni	2	E. B. Garrard	"	80 00	April 1, 1911	
" "		G. A. Bellamy	Lineman	85 00	May 1, 1913	
Bamfield	51	W. A. McGee	Agent	90 00	July 1, 1915	Vice G. M. Ross, resigned.
"		J. B. McKay	Lineman	85 00	April 1, 1911	
	53					

(Branch line to Cape Beale from Bamfield, also to Life Saving Station, Bamfield, transferred to Marine and Fisheries Dept., as the line is entirely for their service.)

GOVERNMENT TELEGRAPH SERVICE—VANCOUVER ISLAND LINES—*Continued*

ALBERNI-CLAYOQUOT SECTION.

Stations.	Intermediate Distance. Land lines.	Cable.	Names.	Position.	Salaries.	Date of appointment.	Remarks.
					$ cts.		
Port Alberni	2		E. B. Garrard	Agent	80 00	April 1, 1911	
" "			J. B. McKay	Lineman	85 00	April 1, 1911	
Franklin Creek	6¾	1¼					Line crosses Alberni Canal here by submarine cable.
Uchucklesit	23		H. P. Large	Agent and lineman	80 00	May 31, 1915	Vice J. W. Barnes, transferred.
Toquart	9		J. E. Hillier	" " "	85 00	Nov. 16, 1908	Government own office building occupied as residence.
Uchelet	24¼		H. J. Hillier	" " "	80 00	Dec. 1, 1902	$8.50 per month allowed for rent.
Long Beach			Accommodation office				Point of connection from Main lines to branch lines.
Tofino	30¼		F. C. Garrard	Agent and lineman	80 00	April 1, 1911	
Clayoquot		1	F. L. Bussa	Agent	80 00	Feb. 22, 1915	Vice J. C. Barbour, service dispensed with.
	95¼	2¼					

CLAYOQUOT-NOOTKA SECTION.

Clayoquot	0	0	F. L. Bussa	Agent	80 00	Feb. 22, 1915	Vice J. C. Barbour, services dispensed with.
Vargas Island	½	1¼	Miss E. M. Abraham	"	25 p. c. commission	Nov. 18, 1914	
Port Vargas	4½		Miss Helen Carolan	"	25 p. c. commission	Feb. 19, 1916	
Ahousat	2½	4¼	W. C. Hamilton	Agent and lineman	85 00	July 1, 1914	
Hesquiat	28	2	Rev. Chas. Moser	"	25 p. c. commission	Aug. 1, 1914	
Estevan	6	2¼	A. C. Cole	Agent and lineman	85 00	April 1, 1914	
Nootka	20	3¼	T. T. Gardhouse	"	25 p. c. commission	Aug. 7, 1911	
Clayoquot Branch.							
Clayoquot	0	0	F. L. Bussa	"	80 00	Feb. 22, 1915	Vice J. C. Barbour, services dispensed with.
Opitsat	0	½	Rev. Jos. Schindler	"	Free	Oct. 1, 1914	Free office.
Kakawis	1	0	Rev. Fr. Epper	"	25 p. c. commission	July 29, 1914	
	62½	13¼					

TOQUART—SECHART SECTION.

Toquart—Sechart Section.							
Toquart	0		J. E. Hillier	Agent and lineman			
Sechart	7½	2	Accommodation Office				
Tofino—Mosquito Harbour.							
Tofino	0		F. C. Garrard	Agent and lineman			
Mosquito Harbour	9½	1	Accommodation Office				Lumber and logging firm.
Tofino—Clayoquot Sound.							
Tofino	0		F. C. Garrard	Agent and lineman			
Clayoquot Sound	10½	1	Accommodation Office				Clayoquot Sound Canning Co.
Tofino—Leonard Island Light.							
Tofino	0		F. C. Garrard	Agent and lineman			
Leonard Island Light		1½	Accommodation Office				For Marine and Fish. Dept.
	33						

GOVERNMENT TELEGRAPH SERVICE—VANCOUVER ISLAND LINES—*Continued.*

NANAIMO—COMOX CAMPBELL RIVER SECTION.

Stations.	Intermediate Distance.	Names.	Position.	Salaries.	Date of appointment.	Remarks.
				$ cts.		
Nanaimo		M. S. Stephens	Agent	100 00	Nov. 1, 1913	
"		H. W. Spencer	Messenger	35 00	Mar. 30, 1911	
Wellington	5	J. H. Coull	Agent	25 p. c. commission	Feb. 1, 1916	Vice D. R. Nickerson, resigned.
Parksville	23	A. S. Gillespie	"	90 00	April 19, 1915	Vice R. A. Gooding transferred.
"		Wm. Mills	Lineman	85 00	June 1, 1903	
Union Bay	29	Fred Brown	Agent	80 00	Dec. 16, 1913	
"		Thos. Hudson	Lineman	100 00	Nov. 17, 1898	
Cumberland	10	W. E. Spencer	Agent	80 00	May 17, 1914	Vice T. Thorne, services dispensed with.
Courtenay	7	John Aitken	"	80 00	Feb. 1, 1912	
Comox	8	Mrs. M. Smith	"	65 00	Sept. 1, 1911	$5 per month allowed for office rent.
Oyster River	32	Miss B. Woodhus	"	25 p. c. commission	April 1, 1909	
"		Mark Coe	Lineman	90 00	Feb. 1, 1910	
Campbell River	4	Jas. Slocombe	Agent	90 00	Mch. 27, 1916	Vice R. A. Gooding, resigned. Vice Jas. Lipscombe, resigned.
	118					

NANAIMO—COMOX-CAMPBELL RIVER SECTION.—*Concluded.*

Branches.							
Parksville-Alberni.							
Parksville	0		A. S. Gillespie	Agent			
"			Thos. Hirst	Lineman	85 00	Feb. 4, 1911	
Alberni	30		Mrs. P. A. Haslam	Agent			
"			A. A. Lynn	Lineman	85 00	April 1, 1912	
Comox-Cape Lazo.							
Comox	0		Mrs. M. Smith	Agent			
Cape Lazo	6		Gov't. Wireless	Operator			To give connection to Wireless station line locally repaired.
Union Bay-Denman & Hornby Island.							
Union Bay	0		Fred. Brown	Agent	25 p.c. commission		
Cable Landing							
North Denman Island	7	1	Wesley Piercy	"	" "	Feb. 1, 1908	
South Denman Island	5½		Thos. Chalmers	"	" "	Feb. 1, 1908	
South Hornby Island	1½	1	Thos. Smith	"	" "	Feb. 1, 1908	
North Hornby Island	9		Geo. Howe	"	" "	June 15, 1912	
	23	2					

All salaries on this line were increased to present rating on June 1st., 1913.

GOVERNMENT TELEGRAPH SERVICE—VANCOUVER ISLAND LINES—*Continued.*

NANAIMO—GABRIOLA ISLAND SECTION.

Stations.	Intermediate Distance.		Names.	Position.	Salaries.	Date of appointment.	Remarks.
	Land Lines.	Cable.			$ cts.		
Nanaimo	0		B.C. Telephone Co	Closed 1 April 1915			Accounting done by Govt. office.
" Govt. office	0		M. S. Stephens	Agent			
" River	5½		J. Gordon	"	25 p.c. commission.	Feb. 1, 1909	
North Gabriola Island	1	¾	R. Hoggan	"	25 p.c. "	Oct. 1, 1910	
Shaws			Mrs. W. N. Shaw	"	25 p.c. "	June 1, 1912	
South Gabriola	12		J. Degnen	"	25 p.c. "	Feb. 1, 1909	
	18¼	¾					

CAMPBELL RIVER—POWELL RIVER SECTION.

Campbell River	0		W. D. Slocombe	Agent			
Quathiaski Cove	2	1	W. E. Anderson	"	25 p.c. commission.	Nov. 1, 1910	
Cape Mudge, Light	3½		J. W. Davidson	"	25 p.c. "	Dec. 23, 1915	
Heriot Bay	6½		H. A. Bull	"	25 p.c. "	Nov. 1, 1910	
Bagots	1½		T. H. Bagot	"	25 p.c. "	Jan. 1, 1913	
Mary Island	5	3	Jas. Milne	"	25 p.c. "	Oct. 1, 1912	
Cortez Island	9	1	Wm. Manson	"	25 p.c. "	Nov. 1, 1910	
Lund (Mainland)	14	3	W. W. Trotter	" Lineman	85 00	June 23, 1914	Vice J. C. Fraser, resigned.
Sliammon	12		B. Nicholson	Agent	25 p.c. commission.	May 17, 1914	
Powell River	3		D. McLean	"	85 00	Mar. 27, 1916	Vice W. D. Slocombe, transferred, Vice R. H. Wendeborn, services dispensed with.
" "			J. J. McKenzie	Lineman	95.00	Feb. 14, 1916	Vice Jas. McGown, resigned.
Blubber bay		5½	R. A. Vade	Agent	25 p.c. commission.	Aug. 1, 1915	Vice J. G. Galbraith, resgd. vice
Van Anda	6		A. G. Deighton	Agent and lineman	25 p.c. "	Feb. 10, 1911	J. B. Fry, resigned
	62½	13½					

CAMPBELL RIVER—POWELL RIVER SECTION.—*Con.*

Land line on Valdez Island repaired by T. H. Bagot and paid only for time occupied executing repairs.
" Mary Island " W. Milne " "
" Cortez Island " J. Hamarech " "
" Texada Island " A. G. Deighton " "

SALT SPRING ISLAND TELEPHONE LINE.

Duncan	0		Miss M. Robertson	Agent	65 00	Mar. 1, 1912	Now in public building.
Sansun Narrows	15¾		Closed Mar. 30, 1915				
Trenches	3		C. N. Trench	Subscriber		Mar 1, 1912	
South Salt Spring	4		R. P. Edwards	Agent	25 p.c. commission.	Dec. 1, 1912	
Bridgemans	6½		A. J. W. Bridgeman	Closed Oct. 31, 1915			
Fulford Harbour			C. M. Blandy	Agent	25 p.c. commission.	July 1, 1908	
Beaver Point	2		W. D. Patterson	"	25 p.c. "	Jan. 1, 1916	
Cushion Cove	3		Bullman Lbr. Co.	"	Free	Sept. 1, 1911	Free office.
Horels	2		James Horel	"	25 p.c. commission.	" 1, 1911	
Ganges Harbour	6		Miss G. D. Layard	"	50 00	Oct. 16, 1915	Vice Miss M. E. Hughes, resigned.
Henry			John Henry	"	25 p.c. commission.	Nov. 15, 1914	
Bedwell Harbour	2½		Mrs. A. R. Spalding	"	25 p.c. "	Oct. 1. 1908	Cable crosses here.
South Pender Island	1½		L. S. Higgs	"	25 p.c. "	May 1, 1913	
Aldridges	3½		A. H. Aldridge	Subscriber	Closed Mar. 31, 1915		
Dalhousie Ranch			V. Simpson	Agent	25 p.c. commission.	May 10, 1915	
Browning Harbour	3		J. A. Brackett	"	25 p.c. "	Jan. 1, 1908	
Hope Bay	2½		S. P. Corbett	"	25 p.c. "	Oct. 1, 1911	
Clam Bay	2		A. Davidson	"	25 p.c. "	June 1, 1913	
Port Washington	2		S. Percival	"	25 p.c. "	" 1, 1914	Vice C. A. Gaunt, resigned.
Village Bay	5		A. Deacon	"	25 p.c. "	Dec. 1, 1908	
Mayne Island Hotel	2½		C. J. McDonald	"	25 p.c. "	" 1, 1908	
Active Pass Light	1½		Geo. Georgeson	"	25 p.c. "	" 1, 1908	
Galiano Island	3		Burrill Bros.	"	25 p.c. "	" 1, 1908	
	88	7¼					
Ganges exchange	24						

Subscribers pay $24 yearly rental and regular tariff.
Repairs made to land lines on the various sections as under; only actual time occupied in making repairs paid for.
Duncan to Sansun Narrows, J. Noury, Sr.; Salt Spring Island, Jas. Horel; Pender Island, J. A. Brackett; Mayne Island, A. Deacon Galiano Island, Burrill Bros.
All salaries on this line increased to present rating on June 1, 1913.
Telephone Exchange, Ganges, opened November 11, 1914, with 33 subscribers, who pay $24 per annum.

GOVERNMENT TELEGRAPH SERVICE—VANCOUVER ISLAND LINES—*Continued.*

SIDNEY—GANGES TELEPHONE LINE.

Stations.	Intermediate Distance.		Names.	Position.	Salaries.	Date of appointment.	Remarks.
	Land lines.	Cable.			$ cts.		
Sidney	0	0	B.C. Telephone Co	Agents	25 p.c.	July 1, 1910	
Swarz Bay	3	0	F. D. Simpson	"	Free	May 1, 1915	Closed January 1, 1916.
Knapp Island	3	1	J. S. Harvey	"	"	May 1, 1915	
Fulford Harbour	6	1½	G. M. Blandy	"			
Ganges	9	0	Miss G. D. Sayard.	"			
	21	2½					

POWELL RIVER—VANCOUVER SECTION.

Powell River	0		D. McLean	Agent	85 00	March 16, 1916	Vice W. D. Slocombe, transferred, vice R. H. Wendeborn, services dispensed with.
Wolfson Bay	15		Mrs. John Fay	"	25 p.c. commission.	Mar. 1, 1915	Vice W. Peterson and C. A. Pendleton, resigned.
Stillwater	3		J. H. Brownrigg	"	25 p.c. "	May 17, 1913	
Hardy Island	3½	2½	H. R. Nickson	"	25 p.c. "	Feb. 19, 1915	Vice W. W. Wood and H. E. Williams, resigned.
Nelson Island	5¾	1¼	Rod McKay	Lineman	85 00	Nov. 1, 1913	
Pender Harbour	3¾	¾	Theo. Dames	Agent	25 p.c. commission.	July 15, 1913	
Donleys Landing			E. Donley	"	25 p.c. "	Aug. 4, 1915	
Secret Cove	10		Geo. Ewart	"	25 p.c. "	Nov. 29, 1915	
Half Moon Bay	7½		Mrs. C. Lyell	"	25 p.c. "	May 17, 1913	Formerly Welcome Pass.
Buccaneer Bay	6		A. Grant	"	25 p.c. "	Dec. 1, 1915	Vice W. C. Birdsall, resigned.
North West Bay	4		Jas. Williams	"	25 p.c. "	Oct. 28, 1914	Vice C. C. Hunt, resigned.
Sechelt	6		B. V. Peate	"	85 00	Feb. 1, 1916	Vice Thos. Snodgrass, services dispensed with.
"			Geo. West	Lineman	85 00	May 31, 1915	Vice H. P. Large, transferred.
Roberts Creek	1		Harry Roberts	Agent	25 p.c. commission.	Aug. 16, 1915	
Elphinstone	7		Geo. Husdon	"	25 p.c. "	May 5, 1914	Closed 16 August, 1915.
Gibsons Landing	7		W. W. Winn	"	25 p.c. "	May 15, 1913	
Keats Islands		1	H. I. Brown	"	25 p.c. "	" 1, 1913	
Tunstall Bay		3½	R. Davidson	"	25 p.c. "	" 17, 1913	
Bowen Is. (Snug Cove)	5½		J. A. Fulton	"	85 00	April 1, 1914	Vice A. M. Falconer, transferred.
Point Cowan	3½		E. R. Hoiles	"	Free	May 17, 1913	
White Cliff		2	Cable Landing				
North Vancouver	15½		Mrs. E.C. Williams	Agent	65 00	Feb. 20, 1914	Vice R. H. Wendeborn, transferred.
" "			P. T. Cousins	Lineman	95 00	May 1, 1913	

Vancouver	4	1	W. J. Ruth	Manager	100 00	Sept. 18, 1914	Vice G. M. Ross, transferred.
"			Raym. Trenholme	Clerk	55 00	Feb. 23, 1916	Vice W. D. Slocombe, promoted.
"			Lawrence Baoin	Messenger	35 00	July 1, 1914	
"			John Smith	"	35 00	June 12, 1914	
	108	12					

The wire for 2½ miles out of Vancouver is owned by the B. C. Telephone Co.
Land line on Hardy Island repaired by Agent Nickson and paid only for time occupied executing repairs.
" Keats Island " " Brown " "
" Bowen Island " " Fulton " "

CAMPBELL RIVER—HARDY BAY SECTION.

Campbell River	0		W. D. Slocombe	Agent			
Menzies Bay	13		J. T. Becker	"	25 p.c. commission	June 21, 1915	
Rock Bay	14		J. W. Barnes	"	90 00	" 10, 1915	Vice Wm. Struthers, resigned.
"			Joe. Robitaille	Lineman	85.00	April 1, 1915	
"			Chas. Cook	"	85.00	Dec. 21, 1915	Vice Joe. Robitaille, resigned.
Sayward	23		H. Otto Sacht	Agent	25 p.c. commission	Mar. 27, 1915	
Beaver Cove	48	1½	J. A. Cunningham	"	90.00	April 5, 1915	
"			E. H. Olney	Lineman	85.00	Feb. 13, 1915	
Alert Bay	10		A. M. Wastell	Agent	25 p.c. commission	Oct. 1, 1915	Vice R. G. Dundas, resigned.
Hydes Creek	2		Isaac Langvist	"	25 p.c. "	Dec. 11, 1915	
Suquash	11		A. Scothorn	"	Free	Mar. 1, 1915	Vice M. Wearing, resigned.
Fort Rupert	15		H. T. Cadwallader	"	25 p.c. commission	" 26, 1915	
Port Hardy	3		A. E. Egan	"	25 p.c. "	April 1, 1915	
Coal Harbour	13		Thos. Sorenson	"	25 p.c. "	Feb. 20, 1915	
Quatsino		2	O. A. Sherberg	"	25 p.c. "	Mar. 31, 1915	
"			Thos. Ildstad	Lineman	85.00	" 31, 1915	
Holberg	22		C. Bjerregard	Agent	25 p.c. commission	April 1, 1915	
Langdale	2		Knud Hansen	"	25 p.c. "	Aug. 3, 1915	
San Josef Bay	13		H. A. Ohlsen	"	25 p.c. "	April 1, 1915	
Sea Otter Cove	1¼		Hy. Petersen	"	25 p.c. "	Aug. 3, 1915	
Fisherman Bay	9		J. E. Vick	"	25 p.c. "	April 1, 1915	
Cape Scott	4		Wm. Gibbs	"	25 p.c. "	Aug. 3, 1915	
	203½	4½					

VANCOUVER—SQUAMISH (NEWPORT) SECTION.

Stations.	Intermediate Distance.		Names.	Position.	Salaries.	Date of appointment.	Remarks.
	Land Lines.	Cable.			$ cts.		
North Vancouver	0	.....	Mrs. E. C. Williams	Agent			
Eagle Harbour	10	.....	Eagle Harbour Packing Co.	Agents	Free	May 17, 1913	
Whenstone Quarry	.....	.....	W. Evinson	Closed June 15, 1915			
Porteau	17	.....	F. D. Wilson	Agent Lineman	95.00	Oct. 6, 1913	
Britannia Beach	7	.....	E. J. Donahue	Agent	25 p.c. commission	Mar. 4, 1914	
Mill Creek	3	1½	F. Devitt	"	Free	April 5, 1915	
Squamish	7½	.....	E. S. Reeve	"	95 00	Oct. 1, 1913	Formerly Newport.
	44½	1½					

SIDNEY AND SIDNEY ISLAND TELEPHONE LINE.

Sidney	0	.....	B. C. Telephone Co	Agents	25 p.c. commission	July 1, 1910	
Sidney Island	3	3	H. J. Edmonds	"	Free	Mar. 1, 1912	
	3	3					

BAMBERTON WORKS—KEATING'S BRANCH.

Bamberton Works	1	1	A. H. Anderson	Agent	Free		Connected with B. C. Telephone Co

GOVERNMENT TELEGRAPH SERVICE—VANCOUVER ISLAND LINES—*Concluded.*

CHEMAINUS, KUPER-THETIS ISLAND LINE.

Stations.	Intermediate Distance.		Names.	Position.	Salaries.	Date of appointment.	Remarks.
	Land.	Cable.					
Chemainus	0	0	B. C. Telephone Co	Agents	25 p c. commission.	June 1, 1912.	
Kuper Island	.....	4	Rev. W. Lemmens	Agent	25 p.c. "	Sept. 1, 1913.	
Thetis Island	1	.....	A. W. Bar. Foote.	"	.....	May 1, 1914.	Subscription.
Burchells	1½	.....	R. Burchell.	"	Free	Sept. 1, 1914.	
Overbury	¼	.....	Hoffman & Hunt	Agents	Closed May 1, 1915.	.....	
Heneages	¾	.....	A. Heneage	Agent	.....	Oct. 1, 1912.	
	3½	4					

SAANICHTON—JAMES ISLAND LINE.

Keatings	0	0	B. C. Telephone Co	Agents	.....	Dec. 23, 1913.	
James Island	3½	1	G. C. Grubb	Agent	Free	Dec. 7, 1914.	
	3½	1					

TOFINO—BEAR RIVER LINE.

Tofino	0	0					
Mosquito Harbour	0	0					
Kalappa Mines	4	.....					
Race Narrows	½	¼	Cable crosses here.				
Bear River	10½	.....					
	15½	¼					

DISTRICT SUPERINTENDENT'S STAFF.

			Wm. Dee	Dist. Supt	120.00	Sept. 1, 1913.	
			A. V. Porter	Line Foreman	110.00	June 1, 1911.	
			Harry Ward	Tempor. Inspector	.....	Resig'd June 30, '15	
			E. Brammer	Clerk	100 00	Sept. 1, 1914.	

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

YUKON TELEGRAPH SYSTEM, MAIN LINE, ASHCROFT TO INTERNATIONAL BOUNDARY BELOW DAWSON.

Stations.	Intermediate Distance.	Name.—Position.	Salaries per Month or Com.	Tariff from Ashcroft.	Night Rate.	Memo.
	Miles.		$ cts.			
Vancouver, B.C.		J. T. Phelan, superintendent	233 33			
		P. R. Quain, clerk	125 00			
		E. M. Keays, clerk	100 00			
		C. Belleau, clerk	85 00			
		M. W. Wood, stenographer	70 00			
Ashcroft, B.C.	0	C. E. Gooding, district supt	175 00			
		J. M. Kelly, manager	125 00			(40 p.c. of salary paid by C.P.R.)
		R. D. Davies, day operator	85 00			" "
		L. W. McCandlish, night operator	90 00			" "
		Camille Gooding, bookeeper	60 00			
		Oren Porter, messenger	15 00			" "
		Lum Wo, janitor	8 00			
Dougherty's, B.C.	24	Commission office	25 p.c. T.L. tolls	25 & 2	25 & 1	Agt. pays $2.50 per month rental.
Clinton, B.C.	10	E. LeBourdais, opr. and lineman	70 00	25 & 2	25 & 1	$5 per month for rent, fuel and light.
Pollards, B.C.	21	Commission office	25 p.c. T.L. tolls	25 & 2	25 & 1	Agt. pays $2.50 per month rental.
59 Mile House	9½	"	"	"	"	" "
70 "	11	"	"	"	"	" "
74 "	4	"	"	"	"	" "
83 "	9	"	"	"	"	" "
100 "	17	"	"	"	"	" "
105 "	5	"	"	"	"	" "
108 "	3	"	"	"	"	" "
115 "	7	J. Foster, opr. & lineman	95 00	"	"	

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

YUKON LINE—*Continued.*

Stations.	Intermediate Distance.	Position.	Salaries per Month.	Tariff from Ashcroft.	Night Rate.	Memo.
	Miles.		$ cts.			
118 Mile House, B.C.	3	Commission office	25 p.c. T. L. tolls	25 & 2	25 & 1	Agent pays $2.50 per month rental.
122 " "	4	"	"	"	"	" " "
127 " "	5	"	"	"	"	" " "
134 " "	7	"	"	"	"	" " "
141 " "	7	"	"	"	"	" " "
x150 " "	9	J. B. Rutledge, opr. & lineman.	95 00	50 & 3	30 & 2	$5 per month for rent, fuel and light.
		A. E. Rutledge, asst. & messr.	30 00			
153 " "	3	Commission office	25 p.c. T.L. tolls	"	"	Agent pays $2.50 per month rental.
158 " "	5	"	"	"	"	" " "
Lynes	11	"	"	"	"	" " "
Soda Creek	9	R. D. Lang, opr. & lineman	95 00	"	"	" " "
Rowels	19	Commission office	25 p.c. T. L. tolls	"	"	" " "
Anders	4	"	"	"	"	" " "
Hill's Ranch	4	"	"	"	"	" " "
Moffats	1	"	"	"	"	" " "
Choates	2	"	"	"	"	" " "
Windts	2	"	"	"	"	" " "
Yorstons	4	"	"	"	"	" " "
Shepherds	7	"	"	"	"	" " "
xxQuesnel	14	L. LeBourdais, opr. & lineman.	95 00	"	"	House, light and fuel free.
		Kate LeBourdais, asst. & messr.	30 00	"	"	
xxxBlackwater, B.C.	42	W. A. Knowles, operator	75 00	60 & 4		$30 per month, board allowance.
		J. A. Bowles, lineman.	70 00			" "
Bobtail Lake, B.C.	37	L. R. Seldon, opr. & lineman.	75 00	75 & 5		Provisions supplied.
Mapes, B.C.	22	Commission office	25 p.c.			
Nechacco, B.C.	10	Alfred Ferland, opr. & lineman.	75 00	"		$30 per month, board allowance.
Fort Fraser, B.C.	21	Hugh Taylor, "	75 00	"		" "
Fraser Lake, B.C.	3	Commission office	25 p.c. T. L. tolls	"		
Stuart Lake, B.C.	47	"	"	1.00 & 7		
Endako (Stella)	25	Harry LeDuke, opr. & lineman.	75 00	"		" "
Burns Lake, B.C.	30	R. A. Slater, "	75 00	"		" "
South Bulkley, B.C.	27	Wm. Mitchell, operator	75 00	"		Provisions supplied.
		W. N. Clarke, lineman.	70 00			" "

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

YUKON LINE—*Continued.*

Stations.	Intermediate Distance.	Position.	Salaries per Month.	Tariff from Ashcroft.	Night Rate.	Memo.
	Miles.		$ cts.			
North Bulkley, B.C.	17	E.G. Ayliffe, operator & lineman	75 00	1 00 & 7		$30 per month, board allowance.
Telkwa	37	J. E. Lima " "	75 00	75 & 5	(Exception).	" "
Smithers	2	R. Barker " "	75 00	75 & 5	"	" "
Moricetown	26	J. K. Muir, " "	75 00	1 00 & 7		Provisions supplied.
xxxxHazelton	28	E. R. Cox, local manager	110 00	1 00 & 7		$1 per day, board allowance.
		G. W. McKay, night operator	100 00			" "
		J. E. Germain, day operator	85 00			" "
		R. O'Brien, messenger and clerk	100 00			
		W. Blaekstock, lineman	75 00			$1 per day, board allowance.
		J. A. Thorne, line foreman	100 00			
Main Line—						
1st Cabin	16	W. W. Perry, oper. & lineman	75 00	1 25 & 10		Provisions supplied.
2nd Cabin	33	C L. D. Maxwell, operator	75 00	1 25 & 10		" "
		W. S. Simpson, jr., lineman	70 00			" "
3rd Cabin	25	W. H. Larmer, lineman	70 00	1 25 & 10		" "
		Jno. Peers, operator	75 00			" "
4th Cabin	20	E. W. Murray, operator	75 00	1 25 & 10		" "
		Hugh McKay, lineman	70 00			" "
5th Cabin	20	J. J. Doré, operator	100 00	1 50 & 10		" "
		Allen Johnson, lineman	$3 per day			" "
6th Cabin	20	Robert Todd, operator	100 00	1 50 & 10		" "
		J. Veale, lineman	$3 per day			" "
7th Cabin	19	W. T. Weekes, operator	100 00	1 50 & 10		" "
		Carl Jepson, lineman	$3 per day			" "
8th Cabin	19	Angus McKay, operator	100 00	1 50 & 10		" "
		L. T. Kenney, lineman	$3 per day			" "
9th Cabin	17	John Chilvers, operator	100 00	1 50 & 10		" "
		Frank Drelfke, lineman	$3 per day			" "
Echo Lake	32	G. T. Waring, operator	100 00	1 50 & 10		" "
		Jas. Houston, lineman	$3 per day			" "
25 Mile Cabin	25	J. W. Morin, operator	100 00	1 75 & 10		" "
		Dougald McDonald, lineman	$3 per day			" "
Iskoot	16	W. H. Blake, operator	100 00	1 75 & 10		" "
		A. L. Wilson, lineman	$3 per day			" "

Telegraph Creek	61	J. Wrathall, operator	100 00	1 75 & 10		$1 per day, board allowance.
Shesley	45	F. N. Jackson, opr. & lineman.	82 50	1 75 & 10		Provisions supplied.
Nahlin	61	J. T. Pilling, operator	82 50	2 00 & 15		" "
		Algoma Simpson, lineman	75 00			" "
Nakina, B.C	49	Edward Barrett, opr. & lineman	82 50	2 00 & 15		" "
Atlin, B.C	63	A. B. Taylor, local manager	116 67	2 00 & 15		$60 per month, board allowance.
Tagish, B.C	75	J. D. Lawrence, operator	82 50	2 25 & 15		Provisions supplied.
		A. Dickson, lineman	75 00			" "
Carcross, Y. T	18	S. E. Chambers, operator	82 50	2 25 & 15		$4 per month, board allowance.
White Horse, Y. T	65	G. S. Fleming, act. dist. supt.	210 00	2 50 & 15		
		J. B. Watson, operator	140 00			
		J. A. Tyder, messenger	65 00			
Lower LaBerge, Y. T	59	W. C. Fraser, opr. & lineman	82 50	2 50 & 15		Provisions supplied.
Hootalinqua, Y.T	30	John Ward, opr. & lineman	82 50	2 50 & 15		" "
Big Salmon, Y. T	34	Jas. Withrow, opr. & lineman	82 50	2 50 & 15		" "
Yukon Crossing, Y.T	38	Robert Young, operator	82 50	2 50 & 15		" "
		H. O. Lokken, lineman	75 00			" "
Carmacks, Y.T	42	H. McMillan, opr. & lineman	82 50	2 50 & 15		" "
Fort Selkirk, Y.T	8	R. P. Hall, opr. & lineman	82 50	2 75 & 15		" "
Coffee Creek, Y.T	30	G. C. McDonald, opr. & l'man	82 50	2 75 & 15		" "
Stewart River, Y.T	75	B. D. DeWitt, opr. & lineman	82 50	3 00 & 20		" "
Ogilvie, Y.T	23	N. P. Hansen opr. & lineman	82 50	3 00 & 20		" "
Dawson, Y.T	48	Wm. Brownlow, local manager	150 00	3 00 & 20		$100 per month, board.
		Geo. A. McLachlan, operator	125 00			" "
		H. W. Butler, clerk	125 00			" "
		J. H. Grant, messenger	$3 per day			" "
		C. A. Couture, lineman	125 00			
Forty Mile, Y.T	55	W. Lafontaine, opr. and lineman	82 50	3 25 & 20		Provisions supplied.
International Boundary	40	Connection made here with U. S. Govt. Alaskan Line				
	1777					

x Bella Coola and Horsefly Branches originating Point.
xx Originating Point Barkerville Branch.
xxx Connection made here with Fort George and Alberta Telephone Company for Fort George, South Fort George and Prince George — Rate from Blackwater 50 and 3.
xxxx Originating point Prince Rupert and Port Simpson Branch.

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

ASHCROFT-LILLOOET BRANCH.

Stations.	Intermediate Distance.	Position.	Salaries per Month.	Tariff from Ashcroft.	Night Rate.	Memo.
	Miles.		$ cts.			
Ashcroft, B.C.	0			25 & 2		
Cache Creek, B.C.	7	Commission office	25 p.c. T. L. tolls	25 & 2		Agt. pays $2.50 per month rental.
Calders, B.C.	2	"	"	25 & 2	"	"
12 Mile House, B.C.	3	"	"	25 & 2	"	"
Hat Creek, B.C.	1	"	"	25 & 2	"	"
Marble Canyon, B.C.	12	"	"	25 & 2	"	"
Pavillion, B.C.	13	"	50 p.c. T. L. tolls	25 & 2		
Carsons, B.C.	(Loop) 3	"	25 p.c. T. L. tolls	25 & 2	"	"
Pavillion Station	3	"	"	25 & 2	"	"
Melville, B.C.	4	"	"	25 & 2	"	"
Clark's, B.C.	2	"	"	25 & 2	"	"
Fountain Ranch	9	"	"	25 & 2	"	"
Lillooet, B.C.	8	W. B. French	$85 00 per M.	25 & 2		
	67					

LILLOOET-PIONEER BRANCH.

Lillooet, B.C.	0			25 & 2		
Mission, B.C.	12	Commission office	25 p.c. T. L. tolls	25 & 2		Accommodation office.
Portage, B.C.	5	"	"	25 & 2		Agt. pays $2.50 per month rental.
Hansens, B.C.	4	"	"	25 & 2	"	"
Sebrings, B.C.	2	"	"	25 & 2	"	"
Vieras, B.C.	1½	"	"	25 & 2	"	"
Big Horn Ranch	3	"	"	25 & 2	"	"
Fairhaven, B.C.	1½	"	"	25 & 2	"	"
Tyaughton, B.C.	9½	"	"	25 & 2	"	"
Mortens, B.C.	1	"	"	25 & 2	"	"
Wayside, B.C.	10½	"	"	25 & 2	"	"
Golden Dream	4	"	"	25 & 2	"	"
Mining Exchange	2	"	"	25 & 2	"	"
Kinders, B.C.	3½	"	"	25 & 2	"	"
Coronation	5	"	"	25 & 2	"	"
Pioneer	1½	"	"	25 & 2	"	"
	66					

LILLOOET—LYTTON BRANCH.

Lillooet, B.C.	0			25 & 2		Agent pays $2.50 per month rental.
Jones Ranch, B.C.	4	Commission office	25 p.c. T. L. tolls	25 & 2		" "
LaRochelle, B.C	6	"	"	25 & 2		" "
McCarty's, B.C	4	"	"	25 & 2		" "
Dickey's, B.C.	3	"	"	25 & 2		" "
Rosebank, B.C.	6	"	"	25 & 2		" "
Watkinsons, B.C.	2	"	"	25 & 2		" "
Halfway House, B.C	1½	"	"	25 & 2		" "
Mahers, B.C.	3	"	"	25 & 2		" "
Ruddock's, B.C.	2	"	"	25 & 2		" "
Simpsons, B.C.	4	"	"	25 & 2		" "
Earlscourt, B.C	12	"	"	25 & 2		" "
Lytton, B.C	2	"	"	25 & 2		" "
	49½		"			

ASHCROFT—SAVONAS BRANCH.

Ashcroft, B.C	0			25 & 2		
McAbees, B.C.	7	Commission office	25 p.c. T. L. tolls	25 & 2		Agent pays $2.50 per month rental.
Semlin, B.C.	8	"	"	25 & 2		" "
Walhachin, B.C	15	"	"	25 & 2		" "
Savonas Orchards	6	"	"	25 & 2		" "
Savonas, B.C.	4	"	"	25 & 2		" "
	40					

150 MILE HOUSE—QUESNEL FORKS BRANCH.

150 Mile House, B.C.	0			25 & 2		
Roses, B.C	8	Commission office	25 p.c. T. L. tolls	25 & 2		Agent pays $2.50 per month rental.
Wiggins, B.C	12	"	"	25 & 2		" "
Harpers Camp, B.C	13	H. L. Walters, opr. & lineman	70 00	25 & 2		$5 per month rent, fuel and light.
Quesnel Forks, B.C.	31	Grant Grinder, "	75 00	25 & 2		" "
Hydraulic, B.C.	25	" "		25 & 2		Accommodation office.
	89					

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

150 MILE HOUSE—BELLA COOLA BRANCH.

Stations.	Intermediate Distance.	Position.	Salaries per Month.	Tariff from Ashcroft.	Night Rate.	Memo.
	Miles.		$ cts.			
150 Mile House, B.C	0			25 & 2		
Williams Lake, B.C	6	Commission Office	25 p.c. T.L. tolls	25 & 2		Agent pays $2.50 per month rental.
Onward Ranch, B.C	2	"	"	25 & 2		" "
Borlands, B.C	9	"	"	25 & 2		" "
Bechers, B.C	28	"	"	25 & 2		" "
Beaumonts, B.C	10	"	"	25 & 2		" "
Hanceville, B.C	18	"	"	25 & 2		" "
Pypers, B.C	3	"	"	25 & 2		" "
Lees, B.C	1	"	"	25 & 2		" "
Martins, B.C	4	"	"	25 & 2		" "
Macauley, B.C	7	"	"	25 & 2		" "
Alexis Creek, B.C	2	"	"	25 & 2		" "
Armstrongs, B.C	2	"	"	25 & 2		" "
Youngs, B.C	8	"	"	25 & 2		" "
Newton, B.C	3	"	"	25 & 2		" "
Bayliffs, B.C	6	"	"	25 & 2		" "
Redstone, B.C	8	"	"	25 & 2		" "
Chilanco Forks, B.C	24	"	"	50 & 3		" "
Tatla Lake, B.C	32	"	"	50 & 3		" "
McClincheys, B.C	11	"	"	50 & 3		" "
Kleena Kleene, B.C	2	R. M. Spaulding Opr. & L'man	$75 per month.	50 & 3		$25.00 per month board allowance.
Lownesses, B.C	31	Commission Office	25 p.c. T.L. tolls	50 & 3		Agent pays $2.50 per month rental.
Squinas, B.C	20	"	"	75 & 5		" "
Anahim Lake, B.C	22	"	"	75 & 5		" "
Marvins, B.C	13	"	"	75 & 5		" "
Atnarko, B.C	7	"	"	75 & 5		" "
Fairvale, B.C	12	"	"	75 & 5		" "
Canoe Crossing, B.C	13	"	"	75 & 5		" "
Bella Coola, B.C	25	Oscar Landry Opr. & L'man	$110.00 per m	75 & 5		Exceptional rate 75 & 5 from Ashcroft—authorized April 17th, 1915.
	329					

QUESNEL—BARKERVILLE BRANCH.

Quesnel, B.C.	0			25 & 2		
Lockes, B.C.	13	Commission Office	25 p.c. T.L. tolls	25 & 2		Agent pays $2.50 per month rental.
Cottonwood, B.C.	8	"	"	25 & 2		" "
Wingdam, B.C.	10	"	"	25 & 2		" "
Stanley, B.C.	14	"	"	25 & 2		" "
Barkerville, B.C.	16	T. F. Murphy Opr. & Lineman	$75 per month	25 & 2		25 & 1 night rate, house, fuel & light free.
	61					

GOVERNMENT TELEGRAPH SERVICE—*Continued.*

HAZELTON—PORT SIMPSON BRANCH.

Stations.	Intermediate Distance.	Position.	Salaries per Month.	Tariff from Ashcroft.	Night Rate.	Memo.
	Miles.		$ cts.			
Hazelton, B.C.	0			25 & 2		
xNew Hazelton, B.C.	4	Edward Noble, operator	75 00	25 & 2		$25 per month, board allowance.
Skeena Crossing	5	Commission office	25 p.c. T.L. tolls	25 & 2		
Kitwangar, B.C.	16	E. L. Davies, opr. and lineman	75 00	25 & 2		" " "
Cedarvale, B.C.	21	Commission office	25 p.c. T.L. tolls	50 & 3		
Lorne Creek, B.C.	20	A. J. Morrison, opr. and l'man.	75 00	50 & 3		" " "
Pacific, B.C.	10	E. H. Fagerlund "	75 00	50 & 3		" " "
Usk, B.C.	12	Commission office	25 p.c. T.L. tolls	50 & 3		Agent pays $2.50 per month rental.
Kitselas B.C	4	S. W. Dobbie, opr. and l'man	75 00	50 & 3		$25 per month board allowance.
xxTerrace, B.C	9	H. B. Birch, "	75 00	75 & 5		" " "
Remo, B.C.	6	Commission office	25 p.c. T.L. tolls	75 & 5		Agent pays $2.50 per month rental.
Graveyard Pt., B.C.	2	H. D. MacNeill, opr. and l'man.	75 00	75 & 5		$25 per month board allowance.
Hole-in-the-Wall	15	C. W. Mitchell, "	75 00	75 & 5		" " "
Telegraph Point	17	F. J. Woran, "	75 00	75 & 5		" " "
Port Essington		G. A. Taylor, "	10 00	75 & 5		
Haysport, B.C	16	J. W. Ferguson "	75 00	75 & 5		" " "
Cassiar, B.C.	3	Accommodation office		75 & 5		Subscriber pays $2.50 per month rental.
North Pacific	7	"		75 & 5		" " "
"		Paul Wickes, lineman	85 00			
Inverness, B.C	23	Accommodation office		75 & 5		" " "
Prince Rupert, B.C.	135	F. W. Dowling, dist. supt.	175 00	75 & 5xxx		
		L. W. Waugh, local mgr	150 00			
		E. L. Young, operator	110 00			
		L. S. Presley, clerk	100 00			
		Carl Halverson, messenger	40 00			
Digby Island, B.C.	5	Dom. Govt. Wireless		75 & 5		
Georgetown, B.C.	20	Commission office	25 p.c. T.L. tolls	1 00 & 7		
Port Simpson, B.C.	10	H. C. Flewin, agent	30 00	1 00 & 7		
	218					

x Branch Telephone Line from New Hazelton to Tramville and Skeena Crossing. Both Commission Offices, 25% T.L. tolls. Rate from Ashcroft $1 and 7.
xx Originating Point Stewart Branch Line.
xxx Exceptional rate 75 and 5 from Ashcroft—authorized December first, 1914.

TERRACE-STEWART BRANCH.

Terrace, B. C	0			50 & 3		
Rosswood, B.C	35	C. D. Garrity, opr. & l'man	75 00	50 & 3		Provisions supplied.
Aiyansh, B.C.	32	A. L. Lanter, "	75 00	50 & 3		$30 per month board allowance.
Alice Arm, B.C.	25	Geo. W. Rodgers, "	75 00	50 & 3		" " "
Riels Camp, B.C	3	Commission office	25 p.c. T.L. tolls	50 & 3		Agent pays $2.50 per month rental.
Anyox, B.C	22	R. H. A. Neilson, opr. & l'man	75 00	50 & 3		$30 per month board allowance.
Maple Bay, B. C.	15	Gordon Grassett, operator	75 00	50 & 3		" " "
		A. J. Martin, lineman.	70 00	50 & 3		" " "
Swamp Point, B.C	20	Commission office.	25 p.c. T.L. tolls	50 & 3		Agent pays $2.50 per month rental.
Stewart, B.C.	22	W. C. Cameron, agent	50 00	50 & 3		
	174					

QUEEN CHARLOTTE ISLAND LINE.

Queen Charlotte City, B.C.	0	W. N. Giegerich, operator	85 00			
Skidegate, B.C.	7	Commission office	25 p.c. T.L. tolls	25 & 2		Agent pays $2.50 per month rental.
Indian Village, B.C.	6	" "	"	25 & 2		" " "
Dead Tree Point, B.C.	4	J. J. Berry, operator	10 00	25 & 2		
Lawn Hill, B.C.	16	Commission office	25 p.c. T.L. tolls	25 & 2		" " "
Trail, B.C.	16	B. A. Burns, lineman	75 00	25 & 2		
Port-Clements, B.C.	21	V. F. Dunn, operator	75 00	25 & 2		$25 per month, board allowance.
Graham Centre, B.C.	4	Commission office	25 p.c. T.L. tolls	25 & 2		Agent pays $2.50 per month rental.
Nadu, B.C.	10	" "	"	25 & 2		" " "
Woden, B.C.	5	" "	"	25 & 2		" " "
Massett, B.C.	11	L. A. Graef, operator	75 00	25 & 2		$25 per month, board allowance.
Tow Hill, B.C.	19	Commission office	25 p.c. T.L. tolls	25 & 2		Agent pays $2.50 per month rental.
Frizzell's Ranch, B.C.	4	" "	"	25 & 2		" " "
	123					

HOOTALINQUA-LIVINGSTONE CREEK, Y. T. BRANCH.

Hootalinqua, Y.T.	0			50 & 3		
Masons Landing	35	Commission office.	25 p.c. T.L. tolls	50 & 3		No rental.
Livingstone Creek, Y.T.	35	" "	"	50 & 3		"
	70					

LOCAL TELEPHONE EXCHANGES.

Ashcroft, B.C.	35	Subscribers.
Harpers Camp, B.C	1	Subscriber.
Lillooet, B.C.	7	Subscribers.
Lytton, B.C.	6	"
Massett, B.C.	5	"
150 Mile House, B.C	5	"
Soda Creek, B.C.	3	"
Walhachin, B.C.	2	"
	64	"

YUKON TARIFFS.

The rates given for points north of Quesnel are one-third less than those primarily adopted, which were calculated on the general basis of 50 cents for 100 miles and 25 cents for each additional 100 miles, counting the distance from Ashcroft.

Exceptional Rates.—Hazelton to Ashcroft 1-00 and 7, June 1, 1910; Prince Rupert to Ashcroft, 1-00 and 7, November 1, 1909.

The local rates between offices north of Quesnel are calculated on the basis of 50 cents for 100 miles and 25 cents for each additional 100 miles, and the local rates between offices north of Atlin are fixed at 50 cents for each 100 miles.

Cable Messages.—On transatlantic business, the word rate is twice as much as the additional word rate given in the list for all points north of Ashcroft-Barkerville, 3x2=6, Dawson 20x2=40c per word.

On transpacific business the word rate is the additional word rate plus 4c.: Barkerville, 3+4=7c.; Dawson, 20+4=24c. per word to or from Ashcroft.

Press Despatches.—For the Yukon line the rate is 1 cent per word, minimum charge $1; this applies to the whole line. Exception, Barkerville-Ashcroft section (local), minimum charge 50 cents.

Yukon system connects at boundary with U.S. Sig. Service Telegraph System.
" " Ashcroft with Canadian Pacific Railway Telegraph.
" " Blackwater with Fort George and Alberta Telephone Company.
" " Carcross with W. P. and Y. Ry. Telegraph.
" " Quesnel Forks with Quesnel Hydraulic Co.'s line to Hydraulic.

GOVERNMENT TELEGRAPH LINES: TARIFFS.

SPECIAL TARIFF.

Cable Messages.—Rates for cable messages passing over the Yukon line will be found in connection with the Yukon tariff on this page.

Elsewhere, the rate for transatlantic messages passing over the Government lines is the same as for ordinary through messages, excepting where the ordinary tariff is more than 25 cents; in such cases the Government line rate is 4 cents per word, with a minimum charge of 25 cents. For example:—

For a message of six words or less, the charge is 25 cents for Government lines.
For a message of seven words the charge is (7 x 4) 28 cents for Government lines.
For a message of twelve words the charge is (12 x 4) 48 cents for Government lines.

In every case the counting of words includes the address and signature in the same way as for transatlantic cable tolls.

Press Despatches.—The rate for press despatches on the Government lines (excepting the Yukon line), is 20 cents per 100 words; no single message less than 20 cents.

REGULAR TARIFF.

NOVA SCOTIA.

Lines in Cape Breton.

Local rate between offices 25-1*

Through rate, on business exchanged with the G.N.W. Tel. Co. to and from North Sydney transfer office 15-1

Night messages are exchanged with the Western Union Telegraph Company for offices on these lines. Rate, 1 cent per word with minimum of 15 cents. The local night rate is 1 cent per word with minimum of 25 cents.

Line from Barrington to Cape Sable—Local rate, 12-1.

Cape Sable Lighthouse . . . . . Through rate 12-2 from Barrington, W.U. office.
Newellton . . . . . " " "

This line is now operated by the local telephone company. Terms of lease provide for former telegraph rate as above not being exceeded.

NEW BRUNSWICK.

Line from Chatham to Point Escuminac.

Local rate between offices 25-1

Through rate, on business exchanged with the G.N.W. Tel. Co., to and from Chatham transfer office 15-1

Bay of Fundy.

Line from Eastport, Me., to Campobello, Grand Manan, and Whitehead Islands:—

Local rates between offices on Grand Manan and Whitehead island, 15-1; Grand Manan and Campobello island, 25-2; The Island and Eastport, Me., 25-2, W.U.O.

Through rate same as local rate on business exchanged with W. U. Tel. at Eastport 25-2

QUEBEC.

Anticosti Island.

Local rate between offices 25-1
Between offices on Anticosti island and Gaspé 50-2
Between offices on Anticosti island and Gaspé on the North Shore St. Lawrence and Chicoutimi lines. 50-2

Through rate, same as local rate on business exchanged with G.N.W. Tel. at Gaspé 50-2

* Where the tariff rate is entered as 25·1 or 25·2, etc., the meaning is that the rate is 25 cents for ten words and 1 cent or 2 cents for each additional word.

Magdalen Islands.

Local rate between offices 25-1
Between offices on Magdalen islands and offices on Government lines on Cape Breton 50-2
Through rate, on business exchanged with Western Union Tel. at North Sydney same as local rate 50-2
Special winter rate for letters exchanged with mail at Bay St. Lawrence, ½ cent per word. (See note in report 1906-7, p. 8.)

St. Pauls Island.

Between St. Pauls Island and offices on Government lines in Cape Breton . . 50-2
Through rate to and from North Sydney on business exchanged with the W.U. Tel., same as local rate 50-2

North Shore St. Lawrence and Chicoutimi.

Local rate between offices less than 100 miles apart 15-1
Between offices more than 100 miles apart 25-1
Between offices on these lines and Anticosti *via* Long Point 50-2
Conjoint rate between offices on Government lines west of Bersimis and offices on the G.N.W. line as far as and including Quebec.
Equally divided between Company and Government lines 25-2
Conjoint rate between offices on Government line east of and including Bersimis and G.N.W. to Quebec (Government line, 25-1; Company's line 15) 40-2
Through rate for Government line offices west of Bersimis, to be added to G.N.W. tolls from Quebec 15-1
Through rate for Government line offices east of and including Bersimis, to be added to G.N.W. tolls from Quebec 25-1
NOTE.—The above lines connect with the G.N.W. Telegraph system at Chicoutimi and at Bay St. Paul and Murray Bay, but the checking of all through business exchanged with the company is done at Quebec.

Quarantine System.

Line from Quebec via Orleans Island and Isle aux Reaux.

Local rates between offices:—
Quebec and Grosse Isle 25-1
Quebec and Orleans Island and Isle Reaux 15-1
Orleans Island and Grosse Isle 25-1
Isle Reaux and Grosse Isle 15-1
On Orleans Island 15-1
Through rate same as local business exchanged with G.N.W. Tel. at Quebec.

Orleans Island Telephone System.

Local rates between offices:—

	Conversations, 3 minutes.	Messages, 20 words and 5 words.
St. Petronille and St. François and intermediate	5c.	5-2
Quebec exchange, St. François and intermediate	15c.	15-5

Through rate 5c. for Government line plus regular tolls of the Bell Telephone Co. for points beyond Quebec.

Beauport-Laval Line (Telephone).

Local rate between offices:—

	Conversations, 3 minutes.	Messages, 20 words and 5 words.
Beauport and Laval and intermediate	10c.	10-3
Quebec exchange and Laval and intermediate	15c.	15-5
Through rate to be added to the Bell Telephone Company's rate beyond Quebec	10c.	10-5

NOTE.—Of these, exchange and through rates, ⅗ goes to the company in each instance.

The rate of charge for telephones, aside from the commission offices, has been fixed as hereunder.

For connection within ½ mile of regular station, $9 per annum.

For each additional ½ mile of line, $4 per annum. The regular tolls being charged in addition on all main line connections.

Charlesbourg and Martineau Mills.

Line connects with Bell Telephone System at Charlesbourg.

	Conversations, 3 minutes.	Messages, 20 words and 5 words.
Local between points on the Government line	10c	10-3
Local between points on the Government line and the Quebec Exchange	20c.	20-5
(Of this 50 per cent belongs to the company.)		
Through between points on the Government line and points on the system of the Bell Telephone Company, to which the Company's established rates from Quebec are to be added	10c	10-3

Timiskaming District (Telephone Line.)

	Conversations, 3 minutes.	Messages, 20 words and 5 words.
Kippewa Dam—North Timiskaming and intermediate	25-5	25-5

Same rate for both local and through business, that is business exchanged with the connecting line at North Timiskaming.

ONTARIO.

Pelee Island Line (Telephone).

Local rate between offices:—

On the mainland Leamington-Point Pelee	15-1
On the island	15-1
On the island and Leamington	25-1
Through rate on business exchanged with the G.N.W. Tel. at Leamington	15-1

This line is operated by telephone in conjunction with the Bell Telephone Co. Charges for conversations being based on local tolls plus the regular tolls of the company beyond Leamington. (Local rates, 15c. or 25c. for three minutes conversation and proportionate charge for any period in excess of three minutes.)

NORTHWEST TERRITORIES—SASKATCHEWAN AND ALBERTA.

Qu'Appelle—Edmonton Line.

Local rates between offices less than 12 miles apart 15-1
Between offices already reached by company's lines, excepting when the company's rate is higher 25-2
Between offices solely on Government line 35-2

Through rates, for business exchanged with the connecting companies, same as the above local rates.

Edmonton-Athabaska-Landing and Peace River Line.

Local rates between offices . . . . . 15-1 to 100-7
Maximum charge between offices in the two divisions above and below Edmonton 100-7
A tariff sheet was issued 1st February, 1913.

Moosejaw—Wood Mountain Line.

Local rate between offices 25-2
Through rate the same.

BRITISH COLUMBIA.

Vancouver Island Lines.

Local rates between offices 25-2
Conjoint rate between offices on Government lines and C. P. Tel. line on Vancouver Island 25-2
Through rate, business exchanged with Can. Pac. Tel. at Nanaimo and Victoria, same as local rate 25-2

Golden-Windermere Line (Telephone).

Messages.

Local and *through* rate 25-2
Subscribers for telephones at $36 per year are exempt from above tolls for messages.

Salt Spring Island, Pender Island, etc. (Telephone).

Local rate—Conversations, two minutes . . . . . 25c.
Each additional minute . . . . . 15c.

Through rate—The above line connects with the B. C. Telephone Co. at Duncan Station. The company's tolls are added to the above rates on through business.

Conjoint rate—Between offices on the above islands and offices on the C. P. line, on Government line reached by the C. P. Tel. on Vancouver Island 25-2

Kamtoops-Okanagan Valley System (Telephone).

Local and through rates, 25c. to 60c., according to distance between offices 100 miles apart and over, in stretches of 50 miles:—

Where message rate is	25c.	for 10 words,	2c.	for extra words;	convers'n	10c.	p. min.
"	35c.	"	3c.	"	"	15c.	"
"	40c.	"	3c.	"	"	20c.	"
"	50c.	"	4c.	"	"	25c.	"
"	60c.	"	4c.	"	"	30c.	"

Minimum charge for messages, 25c; for conversation, 15c.
(A tariff sheet was issued for circulation 1st January, 1912.)

APPENDICES

GOVERNMENT TELEGRAPH SERVICES

ANNUAL REPORT FOR 1915-16.

Sectional Reference

(1) Cape Breton lines.

(2) Bay of Fundy lines.

(3) Magdalen Islands.

(4) Anticosti Island lines.

(5) North Shore St. Lawrence and Chicoutimi and Quebec County lines.

(6) North Shore East of Bersimis.

(7) Quarantine Telegraph system.

(8) Pelee Island system.

(9) Northwest—Alberta District.

(10) " (Inspector).

(11) " Saskatchewan District.

(12) Kamloops-Okanagan-Kootenay Districts and Golden-Windermere.

(13) British Columbia lines:
Vancouver Island.
Yukon system.

(14) Cable Ship *Tyrian*.

REPORT No. 1.—CAPE BRETON.

St. John, N.B., August 15, 1916.

D. H. Keeley, Esq.,
General Superintendent,
Ottawa, Ont.

Dear Sir,—I beg to submit herewith annual report covering operations, etc., of the Cape Breton lines for the year ending March 31, 1916.

From April, 1915, to July 31, the care of the lines and offices were under Mr. D. C. Dawson, who, for a period of twenty-four years, faithfully performed the duties of superintendent, but, by a change in administration, whereby the physical part of supervision was deemed advisable, Mr. Dawson retired from active service with the department and, up to the close of the fiscal year, the duties coming under maintenance and operation were under the direct supervision of Mr. C. W. McKee, of St. John, N.B., with title of "Acting Superintendent."

CONDITIONS GENERALLY.

The revenue for the year, due chiefly to conditions attributable to the war, fell off quite sharply during the first five months, this applying chiefly at offices along the Bras d'Or lakes, where in past summers many tourists from points in Upper Canada and the United States have invariably spent the summer months. Towards the fall and up to the end of March, business was a little above the average, due principally to a general revival of business and a more free exchange of commodities, particularly in the fish line, in which industry Cape Breton predominates.

The lines, for the most part, were singularly free from protracted interruption, escaping sleet storms in November, December and February, which prostrated the telegraph lines along the railway route between the Sydneys and the Straits of Canso.

During the year, the interior of the Government cable station at Bay St. Lawrence was thoroughly renovated, in continuation of outside work and painting, which obtained in 1914.

To bring the office at Inverness, which is located in the Dominion building, more up to date, a new operating table and chairs were provided. At this point, two students were also admitted, who will eventually qualify for service elsewhere.

NEW TELEGRAPH OFFICES.

Big Glen, N.S., on the Enon—Salmon River section, opened June 21, Mr. A. D. McVicar, agent and operator; remuneration, 25 per cent of Government line tolls, guaranteed $50 per annum.

Cleveland, N.S., on the Hawkesbury—St. Peter's section, opened November 17, Mrs. W. E. Morrison, agent and operator; remuneration, 25 per cent of Government line tolls, guaranteed $50 per annum.

Grand Anse, N.S., on the Hawkesbury—St. Peter's section, opened August 23, Miss Catherine McPherson, agent and operator; remuneration, 25 per cent of Government line tolls, guaranteed $50 per annum.

Steel's Crossing, N.S., situated between Eskasoni and North Side, East Bay, was opened July 24, Miss Katie Campbell, agent and operator; remuneration, 25 per cent of Government line tolls, guaranteed $50 per annum.

TELEGRAPH OFFICES RE-OPENED.

Grand Narrows, N.S., from April 1, Mary L. McNeil, agent and operator, *vice* John C. McNeil resigned, January 31; no change in remuneration, which remains at 25 per cent of Government line tolls, guaranteed $50 per annum.

NEW TELEPHONE STATIONS.

Ainslie Point, N.S.—North lake, opened September 30. Neil McDonald, agent and operator.

Eastern Harbour, N.S.—Scattarie island, opened October 22. J. H. Nash, agent and operator.

Frizzleton, N.S., on the Northeast Margaree.—Big Intervale line, opened October 10. Ralph McPherson, agent and operator.

Indian Reservation, Middle River, N.S.—Under supervision of J. E. Campbell, Indian agent, opened January 5.

Washabuck, Government wharf, N.S.—Opened June 24. John McNeil, agent and operator.

BROOKS VILLAGE—GLENDALE LINE.

January 4, Glendale, A. H. Boyd, agent and operator.
January 8, River Dennis, J. A. Cameron, agent and operator.
January 10, Upper Glencoe, Hugh McEachern, agent and operator.
January 11, Glencoe Mills, Dan H. McDonald, agent and operator.
January 12, Brooks Village, Leo Jamieson, agent and operator.
January 15, Mull River, Dan. S. McDonald, agent and operator.

At all the above telephone stations, remuneration is at the rate of 25 per cent of Government line tolls without guarantee.

CHANGE IN AGENTS.

Dingwall, N.S.—Joseph O'Brien, agent, superseded by David McDonald and office moved to new location on October 14. It transpired that Mr. McDonald did not desire to retain the office and it was again moved on January 24 to the residence of Gordon W. McPherson, who received the appointment as agent.

Eskasoni, N.S.—Mrs. V. McMillan, agent, resigned January 31, office moved to residence of John A. McAdam, on February 14, but in view of Miss Bingham, Government instructor, being absent on leave, the office remained closed up to the end of the fiscal year.

Fourchie, N.S.—In the latter part of March, Miss Lena MacDonald, agent, was accidentally drowned while skating, and the office was temporarily closed until April 5, when Miss Mary MacDonald received the appointment.

Frenchvale, N.S.—John J. McLean, agent, superseded by David McKay. Office moved to new location and reopened November 29.

L'Archeveque, N.S.—Miss Mary Kemp, agent, resigned September 28, and Mrs. Wm. Kemp appointed. In this case it was not necessary to move the office.

CHANGES IN REPAIRERS.

Big Bras D'Or, North Sydney section.—Mr. Duncan McRae superseded September 6, and Mr. L. G. Patterson appointed. No change in salary, which remains at $60 per annum.

Big Bras D'Or, Gillis Lake Section.—Mr. Angus McLean superseded by Mr. Angus A. Gillis, of Beechmont. No change in salary, which remains at $50 per annum.

APPOINTMENT OF REPAIRERS.

To cover satisfactorily the maintenance and repairs of the several telephone lines, which are operated in conjunction with the telegraph lines, appointments for the several sections were authorized, viz.:—

Grand Narrows, Scheneadie Section.—Mr. A. D. H. McKinnon, of Christmas island, dating from June 1, at salary of $60 per annum.

Whycocomagh, Middle River Bridge Section.—Mr. Daniel MacKay, of North Side, Whycocomagh, dating from January 1, at salary of $88 per annum.

Brooks Village, Whycocomagh section.—Mr. John A. P. McDonald, of Stewartdale, dating from March 16, at salary of $50 per annum.

INCREASES.

North East Margaree, N.S.—Mrs. D. J. Ross; agent and operator. Remuneration increased from 25 per cent of Government line tolls, guaranteed $50 per annum, to a straight salary of $100 per annum, dating from January 1, such increase being made on account of additional duties in connection with operation of telephone line to Big Intervale, Middle River and Baddeck.

Rockdale, N.S.—Mrs. J. D. Morrison. Salary increased from 25 per cent of Government line tolls, without guarantee, to an amount of $50 per annum, dating from September 1.

GENERAL REPAIRS.

Inverness—Meat Cove section. In charge of P. A. Doyle, general repairer, Inverness. Starting on the 1st of June, the main line was carefully gone over, resetting, straightening all poles thrown out by the frost, cutting bushes and replacing defective insulation, after which the telephone lines on the section received similar attention. Some one hundred and twenty-five new poles were set between Dunvegan and Inverness, as well as rebuilding the section between Eastern Harbour and Cape Rouge, distance nine miles.

The line over the mountain between Pleasant Bay and Meat Cove was also thoroughly braced, this being a very exposed section and one where travelling facilities are limited to a horse path. All work completed October 31, lines being in good shape to withstand the winter's storms.

Big Bras d'Or—Meat Cove section. In charge of Graham Dunlop, general repairer, Baddeck, N.S. Outside of rebuilding line between Ingonish and Ingonish Ferry, no special work outside of general patrol was done on this section; this was due to the fact that the line between Dingwall and Neils Harbour was rebuilt the previous season, and all other sections being in first-class shape.

Sydney—Louisburg and Gabarus section. In charge of D. S. Hooper, general repairer, Louisburg, N.S. This section was gone over carefully, and in view of its general condition, it was necessary to set some four hundred and seven new poles, replacing those that had become defective or unsatisfactory through age.

Considerable attention was given to bushing, resetting and banking the lines, as well as cutting out slack wire and replacing broken insulators.

During the latter part of May, temporary repairs were made to the submarine cable connecting the mainland with Scatterie island, damage being caused by drift ice, permanent repairs afterwards being made by general inspector McDonald.

Very few interruptions are recorded on this section during the year.

Boularderie and Eskasoni sections.—In charge of Joseph Logue, general repairer, North Sydney. These sections, due to age, required a great deal of attention, some one thousand one hundred and twenty-five poles being reset, and one thousand seven hundred and forty straightened, as well as one hundred and twenty five anchors being placed, and three hundred and sixty braces set and refitted.

Other general work such as bushing, insulating, etc., receiving the proper attention.

This section also takes in the loop to Steels Crossing as well as the telephone line between Grand Narrows and Shencadie, both of which were carefully repaired and put in good shape.

Hawkesbury—Inverness section. In charge of J. F. McMillan, general repairer, Port Hastings, N.S. No new pole-work was done on this section and, outside of resetting, straightening and banking the line, bracing and guying where necessary, there was nothing of special importance to note.

Port Hawkesbury—Gabarus section. In charge of Murdoch McRae, general repairer, St. Peters, N.S. The work on this section was done principally on the southern end, between St. Peters and Cleveland, some four hundred and seventy new poles being placed and very heavy bushing encountered. Resets, where necessary, along the whole were made, and line securely guyed and braced.

The work was completed early in November, the line being in first-class shape.

I have the honour to be, sir,

Your obedient servant,

C. W. McKEE,
Superintendent.

REPORT No. 2.—BAY OF FUNDY.

Flaggs Cove, Grand Manan, N.B., October 5, 1916.

D. H. Keeley, Esq.,
General Superintendent,
Government Telegraph Service,
Ottawa.

Dear Sir,—I beg to submit the following report on the Bay of Fundy lines for the year ending March 31, 1916.

The telegraph line from Flaggs Cove to Seal Cove has had no interruptions during the year, but the line needed a general overhauling, and at the present writing this work has been completed.

The White Head cable has been interrupted twice during the year. On November 16 a heavy gale washed the cable out at about half tide on the White Head shore and caused a bad leak. I repaired this and it worked good until a few days later when we found another leak in it, at low water, on Cheneys island; since then it has been working well, both ends have been deeply trenched and it ought to stand for some time.

The Seal Cove-Gannet Rock cable, with its branches to Three Islands, and the land line to South Head have all been giving very good satisfaction; these lines have had their share of the general repair work this summer, and are in good working order.

The Eastport-Flaggs Cove cable has given satisfaction throughout the year; one or two interruptions caused by woodchoppers felling trees at Campobello being the extent of the trouble, but repairs were made quickly and no serious delay caused.

On March 30 and 31, the ss. *Tyrian* completed the new cable lines from White Head to Grand Harbour, and Flaggs Cove to Eastport; and preparations were made to commence the work of building the land lines to connect with these cables. All lines are in working order to date.

I remain, sir,

Yours faithfully,

J. R. PARKER,
District Superintendent.

REPORT No. 3.—MAGDALEN ISLANDS.

GRINDSTONE, MAGDALEN ISLANDS, QUE., April 1, 1916.

D. H. KEELEY, Esq.,
General Superintendent,
Ottawa, Ont.

DEAR SIR,—In continuance of my annual report, March 31, 1915, to March 31, 1916, I beg to report as follows: During the summer, permission was granted Rev. Is. Theriault, Dr. Gallant and Wm. Renaud, the lineman, to attach a line on our telephone posts. All of these connections are on Amherst Island and do not interfere with the service.

June 12, Bryon island cable was interrupted and remained so until October 18, at which date Mr. Axade Arseneau, the new line repairer, while on a general visit on the line section of our islands with Mr. J. J. LeBourdais, gave this matter his particular attention. He found some grounded connections and bad circuits and after a general overhaul on these islands got Bryon island under communication. Again since January 25, there is no communication with Bryon island. Mr. Arseneau has visited the line to the cable hut at Grosse Isle and has ascertained that the trouble is undoubtedly in the cable this time, in which case the *Tyrian* will be needed for this job, which is not under our control.

While visiting, Mr. Arseneau restored connection with Entry island September 21; this cable had been interrupted since September 16. Loose connections were found at Amherst harbour office.

On December 18, Mr. Arseneau started building a line to join Wolfe island to the rest of the line; he planted nineteen poles to reach the main line. The office was under operation at Damase Herbert's December 28.

Meat Cove cable is interrupted since December 24, 1914, luckily enough we have a Marconi station here which gives us communication with the mainland although useless to say that a cable in a central position at a business quarter would be a greater convenience. As the Meat Cove cable gives way quite often, it is evident a new cable is required and a greater advantage would be given if laid on Prince Edward Island; in the manner already advocated in last year's report. The new office operated at Wolfe island is on commission only, as are also all the new offices opened since 1914.

The office at Grande Entry village has been closed since last fall on account of Mrs. Aitkens, the operator, whose health is bad. She has been absent from the islands

altogether these two last winters. This office does not do much traffic, but Grand Entry point, operated by Mr. Larade, handles a good deal of traffic as this place is one of the best business quarters of the islands.

Between Grand Entry and Old Harry, distance about 7 or 8 miles, there is a settlement and a church; the people of this section are anxious to get a telephone connection. A telephone box would be the only expense incurred to give them communication.

At Etang des Caps and Sur les Caps, a telephone connection has been proposed, two telephone apparatus are required for this purpose, poles can be furnished when needed. With the addition of the above telephone boxes the islands could count a pretty good equipment of local communications.

On July 13, Mr. John Binet died. Mr. Binet, who was employed since 1900, was an esteemed member of the staff; he had been ill from the beginning of the year. Mr. Azade Arseneau was appointed Mr. Binet's successor as general repairer of the line September 1, and am glad to say Mr. Arseneau has performed his task very well so far even showing capacities in circuit managements and general ability for this position.

In order to keep the present state of things in operation, it has been necessary to do some work in different localities where the line is getting to be more and more exposed, the sea ravaging the sand beaches on which the line passes. I have bought some poles to replace the bad ones damaged and carried away by high tide. In some places where the sea sprays over the line together with the sand, the line has been found pretty rusty. We have replaced some of these bad pieces and the remainder will be attended to during the summer or at the earliest possible date. On the north beach where high tide most generally carries away a big piece of the line, a cable should be laid to insure permanency.

As the present telephone circuit is becoming more crowded the need of a central will become a necessity.

Yours faithfully,

A. LEBOURDAIS,
District Superintendent.

REPORT No. 4.—ANTICOSTI ISLAND.

West Point, Anticosti, April 1, 1916.

D. H. Keeley, Esq.,
General Superintendent Govt. Tel. Service,
Ottawa.

Dear Sir,—I beg to submit my annual report for the year ending March 31, 1916.

We have no additional mileage since my last report. Fox Bay station still closed during winter months, but in connection by phone with Heath Point office during the fishing season; from thence business transmitted on telegraph line.

Last spring, as agreed with your department our two general repairers were authorized to engage the necessary men to go over the whole length of the line, to change and place a great number of poles, and cut clean the bridle-path which was almost impassable with the growth of shrubs and trees. They began their work at the north shore cable's landing and proceeded around West Point and down towards South West Point. The weather being very rainy and strong winds prevailing, the repairers con-

sequently went on with their work very slowly, however, they reached St. Mary's Cliff. There being no amelioration in the weather I ordered them to proceed on with only the absolutely necessary repairs for good working of the line and leave the bridle-path, etc., for the coming season, which they did. To make the line O.K. there will be a good deal of work to do this season. Last November, during a heavy storm, the tide came very high and played havoc again with our poles; many were washed clean out to sea and more fell on the beach. As before mentioned in many reports, the travelling along the whole length of the line is extremely dangerous. Last year, the general repairers and men had a narrow escape. Their boat was pooped, clothes, provisions, tools, etc., were washed out and the boat damaged. I had to hire a motor-boat to send to their relief as they were left completely helpless on the beach. Considering the loss sustained by the repairers, I recommended in a letter dated November 10, 1915, that a sum of ninety dollars ($90) should be granted and divided between them, viz., six in number. Therefore I hope your department will see fit to allow them the above sum as a small compensation for their loss.

I am pleased to say our land line has been in good working order the whole year round, with the exception of few short interruptions at different times. I wish and beg to call your attention *re* interruptions of line. We are not on the continent and have no railway to carry our repairers, consequently when I say short interruptions it means three, four or five days, just the time it takes for the repairer to walk the distance with provisions and tools on his back.

The number of telegraph stations is the same as reported in my last report, viz., eight in number, Fox Bay office in communication with Heath Point as above stated. All the members of the staff and salaries are the same. The Gaspé South West Point cable I am glad to say is working very well, ever since repaired by the staff and cable ship *Tyrian* in May, 1913. The north shore cable has been interrupted since November 17, 1914. The cable ship *Tyrian* was on the cable last fall, but, I think, could do nothing owing to rough weather.

I regret to say that our revenues will be less this year, owing to the war. The owner of the island, Mr. Menier, being of French nationality, has considered it advisable to carry on business only on a very small scale during the war, consequently the business transmitted by our line is much less than it has been for several years past, especially this winter.

The whole humbly submitted, I have the honour to be, sir,

Your obedient servant,

ALF. MALOUIN.

REPORT NO. 5.

QUEBEC, June 8, 1916.

D. H. KEELEY, Esq.,
General Superintendent, Government Telegraph Service,
Ottawa.

DEAR SIR,—I beg to submit my annual report for the year ending March 31.

GENERAL CONDITIONS.

Owing to the decrease in shipping trade on the coast, due to war conditions, and a reduction in the number of visiting sportsmen and tourists, the business of the whole north shore system for the year was not quite equal to that of previous years.

The lines worked regularly and continuously, the interruptions being few and of local character.

CHANGES.

April—Chicoutimi, J. Dube, resigned.
May—St. Hilarien, Merede Coulombe replaced N. Coulombe.
October—Shipshaw Nord, Jos. Blackburn replaced Jos. Noel.
June—Cap a l'Aigle, Philip Duchesnes, agent, re-opened June 25, 1915.
August—St. Henri Taillon, Marie Larouche replaced P. Boivin.
August—Guay St. Agnes, closed August 31, 1915.
September—St. Antoine, St. Agnes, Trefle Perron, agent, opened September 1, 1915.
November—St. Felix Otis, Jos. Gagnon replaced A. Goudreault.
November—Lac Charles, closed November 1, 1915.

QUEBEC COUNTY TELEPHONE.

The line between Beauport and Laval was re-poled with cedar in place of the spruce poles, which had given out.
Four new subscribers' stations were opened:—
Dr. J. Stevenson, Lake Beauport, June 9, 1915.
Alf. Dombrowski, Lake Beauport, June 26, 1915.
St. Vincent Club, Stoneham, August 19, 1915.
Rev. A. Labrecque, Stoneham, December 22, 1915.

ESCUMINAC TELEPHONE LINE.

This line, worked in connection with the New Brunswick Telephone Company, has operated satisfactorily during the year.
Four new stations were opened:—
Bay du Vin Wharf, B. Williston, agent, July, 1915.
Eel River, H. Schofield, agent, July, 1915.
Eel River Bridge, C. Asoyuf, agent, July, 1915.
Lower Escuminac, Louis Jimme, agent, July, 1915.

I remain your obedient servant,

EDWIN POPE,
Superintendent.

REPORT No. 6.—NORTH SHORE ST. LAWRENCE EAST OF BERSIMIS.

NORTH SHORE TELEGRAPH (EAST BERSIMIS).

DISTRICT SUPT. OFFICE, SEVEN ISLANDS, March 31, 1916.

D. H. KEELEY, Esq.,
General Superintendent,
Ottawa, Ont.

DEAR SIR,—I beg to submit annual report on North Shore line (East Bersimis district) from April, 1915, to the 31st of March, 1916.

(1) For the most part of the year, working condition on the line has been satisfactory, only few minor interruptions have occurred, but of short duration, and owing to prompt attention from the local repairers for each of their respective section, no serious delay resulted.

2. *General repairs for maintenance.*—General repairs were numerously needed, all through this district, on account of the frequent heavy storms and extraordinary high tides that had occurred during October and November, in 1914, when the line had occasionally been damaged by the sea washing off the sand banks from place to place along the coast, where a number of poles were thrown down and carried away at various points; especially during the month of May, by melting snow, the operation of the line was affected from the said damages, and all local line repairers were compelled to display great activity to maintain their section of line in a constant working condition, more particularly until the first part of June, when different general linemen could start with general repairs for the season of 1915, and my report to you dated last December 20, contains most complete details of the work performed by each different general repairer during the last season.

3. *New office and change.*—Bradore Bay office, which was closed for several previous years, was reopened on May 11, under the agency of Mr. Alphonse Blais.

An office was opened at Dock, six miles east of Thunder river, on May 15, Mrs. R. Grenier, operator, commission 25 per cent.

An office was opened at Ile Michon, three miles east of Aguanus river, on August 26, operator, Mrs. Henri Boudreault, commission 25 per cent.

An office was opened at Point Lebel, west side of Manicouagon river, November 17, operator being Mrs. Henri Granier, commission 25 per cent.

The total number of offices from Bersimis to Chateau Bay being brought up to 58, including office at Manitou River, 3 miles west of Rivière aux Graines, as the latter has been closed on August 28, only for a short undetermined period on account of a suspension in the pulpwood operations there.

On the 17th of October, the agent at Whale Head office, Mr. Amedée Vignault, died, and that office remained closed until both Mrs. Philias Blais had been appointed agent and her husband as local repairer for the section attached to said office. The new agent and repairer took charge on the 25th October, on same terms and salary paid to late agent, Amedée Vignault. No other change of importance has occurred in the course of the year.

4. *Actual Condition of the Line.*—Before closing, I might do well to note that from last November to date, the wire remained in good working condition without needing any repair. I consider that the good result is due to great attention taken by most of the general repairers in making proper repairs.

I am much pleased to state that all employees in the district have shown themselves most devoted to duty during the year, and I am quite satisfied with them regarding the service.

I have the honour to be, sir,
Your obedient servant,

P. E. VIGNAULT,
District Superintendent.

REPORT No. 7.—QUARANTINE STATION.

St. Jean, O.I., April 1, 1916.

D. H. Keeley, Esq.,
General Superintendent,
Ottawa.

Dear Sir,—I beg to submit herewith my annual report for year ending March 31, 1916.

The Crane Island-Montmagny submarine cable, which we could not raise in November, 1914, for reasons mentioned in my annual report dated April 1, 1915, was broken by ice on November 20, 1914, and two miles of it was carried away which we were unable to recover.

In May, 1915, we repaired this cable with 2.50 knots received from Halifax.

The Grosse Isle-Crane Island cable was broken by ice on the 22nd November, 1914, and half a knot of it carried away, which was impossible to recover; we repaired this break with half a knot of new cable in May, 1915.

One of the St. Francois-Ile aux Reaux cables was interrupted on March 20, 1915, by the ice near Reaux island and was open in two places. It was repaired on May 24, about 150 feet of new cable being added, this cable having been forced from its trench for its entire length on the beach, was replaced solidly on September 15, 1915.

The Orleans-Bellechasse cable being broken at each landing in November, 1914, was repaired in April, 1915, 600 feet of new ½-inch cable being added, which was received from the Bell Telephone Company. This cable was again broken near Orleans island on June 18, 1915, by the anchor of an unknown vessel and was repaired by the Bell Telephone Company, at the request of the military authorities of Quebec.

This cable was raised with the Crane Island-Montmagny cable on November 19, 1915.

The three Ange Gardien-St. Pierre cables, the Reaux Island-Grosse Isle cable, and the Grosse Isle-Crane Island cable were lifted by the ice the whole length of the beaches during the winter of 1914-15. We trenched and cemented them solidly in September, 1915.

It is desirable that the Grosse Isle-Crane Island cable be laid in two sections; from Grosse Isle to St. Margaret island west, with a land line of 1½ miles on the latter island, thence a second stretch of cable to the west end of Crane island, both sections of cable would be sheltered more from ice and strong currents than at present and more accessible for repairs.

In June, 1915, I commenced the reconstruction of the line in the parish of St. Pierre, with new cedar poles purchased the previous year. The work was performed with all possible care, from the cable landing at St. Pierre to the parish of Ste. Petronille, about 8 miles.

In September, 1915, I proceeded with the reconstruction of the line on Grosse isle, with about 50 new cedar poles which I had on hand at Ste. Petronille; all the telegraph and telephone wires on Grosse isle were placed on these poles, also the office entrance wires.

On February 1, 1916, serious damage was caused to the telephone lines by a sleet storm, especially to the St. Jean-Ste. Famille copper line, which was broken in forty places, the telegraph line was not damaged. Repairs were completed on February 7.

There have been no changes in organization during the year.

The large number of stations on Crane island and Goose island (12 in all) makes it necessary to have a central exchange at Mr. H. Lavoie's, who is the present agent, to make it possible for him to control the business of the line and to have returns sent him regularly each month with tolls collected.

I have the honour to be,
Your obedient servant,

J. P. POULIOT,
District Superintendent.

REPORT No. 8—PELEE ISLAND SYSTEM.

LEAMINGTON, ONT., April 7, 1916.

D. H. KEELEY, Esq.,
General Superintendent,
Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—In the matter of the Pelee Island telephone system from March 31, 1915, to April 1, 1916, I beg to report as follows:—

1. Regarding cable, in May, 1915, having previously received instructions from the department we went out and repaired the cable, having found the damage about ten or eleven miles south of the mainland, where a vessel anchor had strained it considerably near some splices, but had not parted it. The gale had apparently been from the northeast, as indicated by the position of the cable when we underrun it where the damage was done. Since then, it worked all right until the early part of February, 1916, when it ceased after a heavy northwest and westerly wind which piled the ice in packs and drove it down the lake. From tests made, by having instruments on the cable terminals at both ends at the same time, we can ring through and hear each other but cannot talk, showing that the cable is not completely parted but is badly injured somewhere. Having already reported the matter to the Department, and having received instructions therefrom to proceed with repairs as soon as practicable, I expect to be able soon to report progress, having in the meantime acquainted Dr. Park with the situation.

2. The land line to Point Pelee is in good condition with the exception of a few ordinary repairs that are always necessary after the winter storms. During last summer, we had several heavy storms, especially one about the middle of July which did considerable to the line, blowing down trees and breaking down wires and poles in several places. In April last, we had to change our wires that crossed the W. E. & L. S. R. Railway from overhead and passed them in an iron pipe under the track in conformity with the regulations in such matters.

I herewith submit a list of offices and operators or agents, with summary of messages, from March 31, 1915, to April 1, 1916.

Yours most respectfully,

JOHN McR. SELKIRK,
District Superintendent.

REPORT No. 9—NORTHWEST, ALBERTA DISTRICT.

EDMONTON, Alberta, April 15, 1916.

D. H. KEELEY, Esq.,
General Superintendent,
Ottawa.

DEAR SIR,—I beg to submit herewith my annual report for the Northwest lines, covering conditions, repairs, construction and changes in staff up to March 31, 1916.

CONDITIONS GENERALLY.

During the year severe storms, floods, prairie and bush fires did considerable damage to our lines, but owing to the watchful care of circuit managers and linemen the interruptions were of short duration and no serious delays to business occurred.

Lesser Slave lake overflowed its banks, causing damage to our line, which cost $1,130.74 to repair. Bush fires between Athabaska and Mirror Landing necessitated the expenditure of $505.48, and fires between Onion lake and Frog lake caused an expenditure of $1,125.97, and at Mooswa $31.02 to repair. These amounts were all charged to maintenance.

During the year construction was continued on the Athabasca-Lac La Biche line, Lake Saskatoon-Hudson Hope line, Athabasca-Fort McMurray line, Battleford-Isle La Crosse line. Between Qu'Appelle and Edmonton some miles of line were changed from fields to roadway. Some poles and material have been purchased and are now on the ground for continuing this work. A further appropriation has been also asked for to carry on this work, as there is considerable of our line still in the fields, which impedes farm work. Details of work done follows:—

A new building was erected at Lake Saskatoon, but owing to severe weather coming on it was found impossible to complete the building within the fiscal year. A re-vote of $400 has been asked for in order to finish it. Appropriations were made for buildings at Dunvegan and Grande Prairie, but as sites have not been secured revotes of the amounts have been asked for.

Our Lake Saskatoon-Hudson Hope line and Athabasca-Fort McMurray lines run largely through an unbroken and untravelled country, and it will be necessary to erect some shelter huts for the linemen while making repairs. These huts can be erected and supplied with small stoves for approximately one hundred dollars each. The revenue for the past year was $23,896.12.

Beginning September 1, 1915, the northwest lines were divided into two districts, Mr. J. D. Noël being appointed superintendent of the lines in the province of Saskatchewan; therefore, this report, in dealing with that district, covers only the expenditures from April 1 to August 31, 1915.

CONSTRUCTION.

Athabasca-Fort McMurray line.—Last year's report showed this line extended to Fort McMurray. Considerable of the line having been erected in the winter and through a muskeg country, the poles could not be set tight. This required a small gang of men going over that portion last summer to tamp and brace the poles, etc. There was a re-vote of $15,000 made available for the completion of the line and the erection of necessary office buildings between Athabasca and Fort McMurray. The total expenditure from this appropriation was $5,080.08.

Athabasca-Lac La Biche line.—An appropriation of $1,000 was made available to complete this line. The distance (from Plamondon to R. C. Mission) being twelve miles. Poles and material were placed on the ground the previous year, and the work was carried on under foreman Cass. The line reached the R. C. Mission and office opened on August 17. The total expenditure on this line was $994.98.

Lake Saskatoon-Hudson Hope line.—An appropriation of $12,000 was made available for the completion of this line. Last year's report shows this line completed to Fort St. John. Work on construction was resumed from Fort St. John as soon as the frost permitted, May 31 last, this was continued without interruption until Hudson Hope was reached and an office installed at that point on August 4, 1915. In January, 1916, an office was installed at Halfway River between Hudson's Hope and Fort St. John, chiefly for line repairing purposes. The distance from Fort St. John to Halfway River is 32 miles, from Halfway River to Hudson's Hope is 30 miles. The expenditure was $10,670.73.

Battleford-Isle La Crosse line.—An appropriation of $7,000 was made available for the completion of this line. The approximate distance to be constructed, to reach Isle La Crosse, was 70 miles. Work was resumed in July, 1915, under foreman Parry,

who constructed 37 miles up to the 31st August, at an expenditure of $4,660.06. On September 1, the district was divided and this work was carried on under the supervision of district superintendent J. D. Noël, of Battleford.

Shifting lines generally.—An appropriation of $5,000 was made available for this work. Fifty poles were purchased at Saddle Lake, 385 were purchased and distributed near Mooswa for change of line, which will be made as soon as money is available; eight miles of line were shifted from fields to roadway east of Battleford; the total expenditure made by this office, from this appropriation, was $1,688.72.

BUILDINGS.

Lake Saskatoon.—An office-dwelling and stable were erected, but owing to severe weather the building could not be completed during the fiscal year. The appropriation for this building was $3,500. The contract price was $2,250, and the amount advanced to the contractor was $1,850. A re-vote of $400 has been asked for to complete the building.

An office-dwelling and stable were erected at Fort McMurray at a cost of $2,080. An office-dwelling purchased and stable built at Calling River, at a cost of $1,100; an office-dwelling at House River, costing $500. These expenditures were taken from an appropriation of $15,000, made available for the completion of the Athabasca-Fort McMurray line and the erection of necessary buildings on that line.

I have the honour to be, sir,
Your obedient servant,

R. C. MACDONALD,
Superintendent.

NEW OFFICES.

Hudson Hope, B.C.—R. M. Osborne, agent-operator, on Lake Saskatoon-Hudson Hope line. J. D. Cadenhead, lineman.

Lac La Biche, Roman Catholic Mission.—Father Le Goff, agent, on Athabasca-Lac La Biche line.

Beaver Lodge.—S. L. Burnett, agent, on Lake Saskatoon-Hudson Hope line.

CHANGES AND ADDITIONS IN STAFF.

Edmonton.—E. J. Kane, clerk, resigned. H. Packebusch, messenger, new appointment. A. H. Slight, assistant, transferred to Athabasca as agent. P. F. Canniff, assistant, replacing A. H. Slight. C. P. Samwell, assistant, transferred from Athabasca. G. Wilder, relieving agent, retired from service.

Athabasca.—S. Grube, messenger, replacing E. Swanson, resigned.

Mirror Landing.—A. Parry, lineman, replacing S. Green.

Grouard.—C. A. Burpee, agent, vice J. A. Powers, resigned. J. A. Bell, chief lineman, retired from service. M. L. Burpee, messenger, vice H. Knibbs, resigned.

Peace River.—A. F. Todd, agent, vice E. W. Arnold, resigned. M. L. Burnett, assistant, vice A. F. Todd, appointed agent. T. Aaron, messenger, vice J. A. Connery, resigned.

Grand-Prairie.—H. Henderson, messenger, new appointment.

Fort McMurray.—R. McRae, lineman, new appointment.

House River.—F. Taylor, lineman, new appointment.

SUMMARY OF EXPENDITURE.

Pay-lists	$54,666 18
Postage	212 88
Travelling expenses	1,391 79
Sundries	5,934 05
Horse feed	4,276 31
Light	217 43
Fuel	1,348 59
Smithing	417 40
Rents	4,072 13
Repairing line	185 62
Horse hire	191 25
Total	$72,913 63

REPORT No. 10—NORTHWEST LINES.—(*Inspector.*)

OFFICE OF THE GENERAL INSPECTOR.

EDMONTON, Alberta, April 25, 1916.

D. H. KEELEY, Esq.,
General Superintendent,
Ottawa, Ont.

DEAR SIR,—I beg to submit herewith a report covering the conditions of the lines in my inspectorate for the fiscal year ending March 31, 1916.

QU'APPELLE-EDMONTON SECTION.

Except for some trouble on the Saskatoon loop, due to carelessness of telephone line builders following the same route, there have been practically no interruptions on this section during the year. Prairie fires occurred between South Humboldt and Kutawa, and some poles were burned, but owing to the vigilance of the linemen at these points no delays occurred to the service. The policy of removing the lines from farms to the highways was continued, and will be necessary until the line is on the roadway throughout its entire length. The iron poles erected between Pitt and Battleford, approximately 100 miles, are still in use, and although lower than the standard pole, promise to be of service for years to come.

In the month of April last the Bresaylor office was removed from its original location to the village of Bresaylor, on the railway line, a distance of three miles. In February an office was opened at Delmas, 13 miles west of Battleford. Agents have forwarded monthly reports promptly, and the conduct of employees generally has been all that could be desired.

On September 1 a new superintendency was created for the province of Saskatchewan, Mr. J. D. Noël, for many years agent at Battleford, being appointed superintendent of the new division, Superintendent R. C. Macdonald retaining Alberta and that portion of northern British Columbia connecting with northwest lines.

MOOSE JAW-WOOD MOUNTAIN LINES.

As noted in my report of last year, the first 12 miles of this line, immediately south of Moosejaw, should be rebuilt this season, as also that portion of the line between Wood mountain and Willow Bunch. The poles on these sections are old, and, having already been reset a couple of times, cannot again be utilized in this way. I found the balance of the line in excellent condition. Business was going ahead in a satisfactory manner, and I found no friction anywhere.

DUCK LAKE-BATOCHE LINE.

There is little business done on this line, which is 7 miles long, but it is of value to the people of Batoche, especially at certain seasons, when the South Saskatchewan river cannot be crossed.

EDMONTON-HUDSON'S HOPE LINE.

The extension of this line from Lake Saskatoon reached Fort St. John at the end of the last fiscal year. Work was resumed in May, and the line completed to Hudson's Hope, B.C., on August 4, 1915. Hudson's Hope is at the head of navigation, on the Peace river, and the establishing of telegraphic facilities will assist greatly in the work of settling up the country. A number of rivers and streams are crossed in the vicinity of Fort St. John, and as no bridges have yet been constructed, the problem of maintaining the wire in good condition is greater than elsewhere; for this reason I would recommend that a lineman be appointed, to be stationed at Fort St. John; it would also be advisable to construct three shelter huts at points between Hudson's Hope and Pouce Coupé; these could be built for approximately $100 each.

The original portion of the line between Edmonton and Athabasca Landing is now in bad condition and should be rebuilt this season. Settlers are pouring into the north country, and the indications are that this condition will prevail for years to come, as there is practically an unlimited area to be filled up. An extension of our lines from Peace River crossing to Vermilion, some 250 miles down the Peace river, would be of great value as settlement is moving in that direction. Despite adverse conditions created by the war, the volume of business promises to be greater this year than at any time in the past. During the year, an office has been opened at Beaver Lodge, and also at Halfway River, between Hudson's Hope and Fort St. John, the latter chiefly for repairing purposes. An office-dwelling was erected at Lake Saskatoon.

ATHABASCA—FORT MCMURRAY LINE.

A large and increasing business is done by Fort McMurray. Settlement being sparse as yet at intervening points, the other offices do little business and are useful chiefly as repairing stations.

During the year, an office-dwelling and stable was erected at Fort McMurray, and similar buildings purchased at Calling River. Despite the rugged nature of the country and the consequent difficulties in travelling the line has been well maintained.

BATTLEFORD—ISLE LA CROSSE LINE.

This line was built as far as Green lake in 1913. Construction from Green lake was resumed during the year, and the line completed to Isle La Crosse in October last. There is comparatively little business done on this line, but it is invaluable to the settlers, it being for some months of each year the only connection with the outside world. An office has been established at Cochin between Meota and Glaslyn.

VANCOUVER ISLAND LINES.

On my trip of inspection of Southern British Columbia lines last September, I found all lines under the jurisdiction of Superintendent Phelan in excellent working order, both on Vancouver island and in the islands of the gulf. There was at the time no demand for new extensions.

KAMLOOPS—OKANAGAN LINES.

At the time of my visit, there was much construction work going on, with requests for extensions and new lines from many quarters. In company with Superintendent Stevens I visited some of the construction camps in the vicinity of Kam-

loops, and investigated closely the requests for new lines to be built during the present year. The lines recommended in my letter of December 16, 1915, were Enderby to Vernon, 26 miles, Edgewood to Shuswap falls, 53 miles, Hoffley creek to Louis creek, 68 miles, and rural service south of Kamloops. Many others were asked for, but to me the above appeared to be the most important.

In the Okanagan valley, I found that business had fallen off considerably, due in part to the extension of the Canadian Pacific Railway telegraphs to Kelowna from the north, and to Penticton from the east, and in part to the conditions created by the war.

Some portions of the older lines will have to be renewed at an early date, the present poles having been reset until too low to be used again, but in general the pole line was in excellent condition.

I have the honour to be, sir,
Your obedient servant,

J. S. MACDONALD,
General Inspector.

REPORT No. 11—NORTHWEST SASKATCHEWAN DISTRICT.

BATTLEFORD, SASK., April 7, 1916.

D. H. KEELEY, Esq.,
General Superintendent,
Government Telegraph Service,
Ottawa, Canada.

DEAR SIR,—I beg to submit my annual report of the Saskatchewan Northwest Telegraph lines, covering conditions and changes in the staff from September 1, 1915, to March 31, 1916.

CONDITIONS GENERALLY.

The line was kept in fairly good working order, except on the Saskatoon loop, where a few interruptions were experienced, owing to the fact that our wires are strung on the Government telephone poles and there is not sufficient space for these numerous wires to give satisfactory service, whenever there is a storm. There have also been several minor interruptions at various points which occurred, practically all, wherever the line runs through fields, where the poles are much lower than the standard ones (on account of being reset a couple of times), thus interfering with the traffic.

Immediately after the war broke out, a decrease in business was very noticeable, during the month of March business has increased some, and a steady gain from now on is expected.

CONSTRUCTION BATTLEFORD-ISLE-A-LA-CROSSE.

This line was built to Green lake during the year 1913-14. Construction was carried on for a further distance of 40 miles during 1915 This year the work proceeded, under foreman Parry, to within 3 miles from the village of Isle-à-la-Crosse, a distance

The total expenditure for this year was $2,233.95.

The approximate amount to complete the work to Isle-a-la-Crosse is $1,200, although there are only 3 miles more to construct, this amount is amply required, on account of a large river to cross, which will necessitate several high masts, etc.

A loop will also be constructed into Lac-la-Plonge, 7 or 8 miles from the main line, and 35 miles this side of Isle-a-la-Crosse.

Both Isle-à-la-Crosse and Lac-la-Plonge are important centres, fur trade is being carried on to a great extent when business is normal. There is also a large saw-mill and electric plant at Lac-la-Plonge, and farming land very good and being cultivated by a large number of settlers. Both Isle-à-la-Crosse and Lac-la-Plonge have large Roman Catholic Missions, with each a large boarding school, etc A telegraph line to these points will prove of great importance to the settlers as well as to the officers of the law, etc.

New offices established, Battleford-Isle-à-la-Crosse line: Isle-à-la-Crosse, 298 miles from Battleford. Cochin, 24 miles from Battleford. Wood Mountain line: Twelve Mile lake, 15 miles south of Limerick. On commission. Qu'Appelle-Edmonton line: Delmas, 22 miles west of Battleford. Shifting lines generally: Several miles of line shifting was done, to the amount of $1,623.71. There is still a large amount of this work to be done whenever the required money is available.

I have the honour to be, sir,
Your obedient servant,

J. D. NOEL,
District Superintendent.

SASKATCHEWAN NORTHWEST LINES.

CHANGES AND ADDITIONS IN THE STAFF.

Assiniboia.—Miss M. Crosson, agent, replacing R. Hodgson, while on military leave.

Battleford.—J. D. Noël, chief operator, made district superintendent; new appointment.

Battleford.—T. F. Finnegan, clerk Superintendent's Office; new appointment.

Battleford.—J. T. Callahan, assistant agent, replacing J. D. Noël, promoted to district superintendent.

Battleford.—E. W. West, messenger, replacing E. Taylor, while acting relieving agent.

Battleford.—P. West, messenger, replacing E. West, promoted to agent at Lloydminster.

Battleford.—J. Redington, messenger, replacing P. West, resigned.

Cochin.—D. Colmer, agent, new office.

Delmas.—D. E. Buck, agent, new appointment.

Green Lake.—J. D. Davidson, agent, replacing R. P. White, transferred to Isle-a-la-Crosse.

Duck Lake.—J R. Bryce, agent, replacing C. A. Baeker, resigned.

Isle-à-la-Crosse.—R. P. White, agent, replacing V. Gauthier, resigned.

Lloydminster.—E. W. West, agent, replacing H. A. Elliott, resigned.

Limerick.—E. Taylor, agent, replacing Miss M. Crosson, transferred to Assiniboia.

EXPENDITURES FROM SEPTEMBER 1, 1915, TO MARCH 31, 1916.

Pay-list	$17,173 45
Work on line	449 50
Horse hire	92 75
Smithing	79 05
Postage	85 50
Oil and electric light	159 23
Rents	1,206 00
Fuel	2,116 60
Horse feed	943 27
Sundries	1,458 88
Total	$23,764 23

SOUTHERN BRITISH COLUMBIA.

REPORT No. 12—KAMLOOPS, OKANAGAN, KOOTENAY DISTRICT, AND GOLDEN-WINDERMERE.

KAMLOOPS, OKANAGAN AND KOOTENAY DISTRICTS.

KAMLOOPS, B.C., April 28, 1916.

D. H. KEELEY, Esq.,
General Superintendent,
Government Telegraphs,
Ottawa, Ontario.

DEAR SIR,—I herewith beg to submit the annual report of the following districts, under my supervision, Kamloops-Okanagan and the Kootenay districts for the year ending March 31, 1916. Since my last report, considerable improvements have been made throughout the system, particulars of which will be given in the following reports on the several sections referred to: $15,000 has been spent in improvements and general repairs. The lines are now all in good shape, and general satisfaction has been expressed, from time to time, on the efficiency of the system and the services rendered by the employees at the various points on the lines. The public have approved of the continuous service on the main lines, throughout the Kamloops-Okanagan districts. The issuing of a daily war bulletin, which is sent out every evening, except Sundays, from Kamloops to outlying points on the lines, has been greatly appreciated by the people, especially as there have been so many men enlisted from this district, their friends and relatives are glad to get the daily war news, otherwise they would not get it but once a week, and there are sections which do not get mail but every two weeks. In the Golden-Windermere section, the daily service was extended from 10 hours to 15 hours a day, which is a great advantage to the public.

These improvements in the service have been carried out at a very small increase in maintenance account and have more than paid for the outlay. At Kamloops, a warehouse and workshop have been established under the charge of line-foreman A. J. Woodburn, where a full supply of repairs are kept; many sets that previously were discarded are now repaired and put in shape again to be used. Thus a big saving is effected. All the outfit of tools and equipment used on the construction and repair gangs are sent in to Kamloops, and if at all worth while they are put in good shape again and made ready to use another year.

KAMLOOPS-VERNON SECTION (514 MILES).

During the year, many improvements and repairs have been carried out on this line, under the supervision of line-foreman A. J. Woodburn. All the old instruments have been replaced, with 2,500 Ohm sets and condensers cut in, which has greatly improved the transmission. At Nicola, the local exchange was overhauled and the switchboard and all instruments put in first-class shape. At Merritt, many needed improvements were carried out, new cable boxes put in and rewired, the aerial leads, for one block leading to the office, were taken down and replaced with 50 pair cable; the lines all over town pulled up, corners guyed and every instrument on the exchange inspected, and put in good order. We have 81 local subscribers on the Merritt exchange.

At Princeton, a new Northern Electric switchboard was installed to look after the increasing number of subscribers on the local exchange, and two miles of new pole line built in the town. The old switchboard which was taken out at Princeton

was re-installed at Keremeos, where a new exchange was opened. The lines all over the exchange were pulled up and put in shape, and all instruments inspected and put in order where required. We have 48 local subscribers at this point.

At Hedley, where we have a small local exchange of 14 subscribers, the exchange was also overhauled and necessary improvements made. At Keremeos, the next place on the line, 25 miles from Hedley, we installed a local exchange of 15 subscribers to start with, but this coming summer will see at least 12 more subscribers installed, as soon as three miles more of pole line is built.

The line was reconstructed between Fairview and Penticton, a distance of 28½ miles. New cedar poles, 30 feet long 7 inches top, were set, and the old single wire transferred and made metallic at a total cost of $5,122. The extra wire was strung to make it possible to equip a composite system for both telephone and telegraph. The telegraph at present terminates at Penticton, but next month will be carried right through to the boundary line.

From Penticton to Vernon, the pole line was overhauled a distance of 90 miles. 800 poles were re-set and 540 guy wires placed on corners and where needed. This section will stand up now for two years yet, when it will have to be all rebuilt.

Work is to be commenced at once stringing the extra wire between Vernon and Holmwood, 51 miles, which will complete our telegraph service, as well as our telephone, right through from Ashcroft (terminal of the Yukon telegraph line), via Kamloops-Okanagan district, to Oroville on the boundary line. My detailed report to the general superintendent on December 18, 1915, covers all particulars of the above mentioned repairs and improvements.

NORTH THOMPSON SECTION (82 MILES).

Repairs and extensions were carried out on this line to the extent of $4,500. The line from the Barriere to Chu Chua, 12 miles, was overhauled, 3 miles of new pole lead put in around the Barriere, to look after local business, and 11 miles of new pole line built on the west side of the Thompson river, from the Barriere Centre. Four new offices were opened and the Barriere office made the central switching office for the three branch lines above that point.

KAMLOOPS TO SAVONAS SECTION (27 MILES).

This line was overhauled during the year and an extra wire strung between Kamloops and Savonas to metallic the line, so as to overcome the heavy induction of the power line which parallels it for a considerable distance up to the mines; it will also be used as a composite system for the telegraph and telephone.

KAMLOOPS-ROSE HILL SECTION (14 MILES)

Very satisfactory business was secured from this section during the year, one new office being opened. Very little trouble was experienced on the line last year, but it will have to be reset not later than next year, as some of the poles are rotting off.

KAMLOOPS TO REVELSTONE LINE, VIA NOTCH HILL AND SICAMOUS SECTION (194 MILES).

One hundred and seventy miles of this line was built a year ago as far east as Taft, B.C., as shown by my last year's report; since then, the line was completed to Revelstoke, 24 miles, and through service inaugurated last January. The section between Taft and Revelstoke was a very heavy piece of work; there was no road or trail and the line had to be built just outside the Canadian Pacific Railway right of way, through the mountain passes. One single No. 6 iron wire was strung, but to get good service it must be made metallic, to overcome the induction of the Canadian Pacific Railway telegraph wires, as we had to parallel their wires for 16 miles. This will have immediate attention and the line will then be in splendid working condition.

For 10 miles along Mira lake, we experienced another heavy job; there is no road and the line follows the rocky lake shore, but as soon as a road is built over this section the line will have to be rebuilt to follow the road.

VERNON-LUMBY SECTION (26 MILES).

The Lumby line runs out east of Vernon. Ten miles of it was constructed in 1914, therefore that part is in good shape. The section between Vernon and Lumby will be overhauled this coming spring and necessary repairs made. Last year a new right of way was secured for the Lumby line into Vernon and our pole line built to the office; previous to that it came in on private companies poles.

KELOWNA TO WHITEMANS CREEK SECTION (30 MILES).

As this section was only built in 1914, very little trouble was experienced last year on the working of the line. A very satisfactory business was secured from the many shipping points on the west side of Okanagan lake, which this line serves.

FAIRVIEW TO MIDWAY SECTION (57 MILES).

During the past year a section (7½ miles) of this line, in and around Rock creek, was leased to the British Columbia Telephone Company, who have put in a local and rural service in that section. The Government retain the top cross-arm on the poles for their own service. Considerable trouble was experienced last year by the very heavy storms and severe lightning throughout this section, especially over the mountain near Bridesville, but in spite of the difficulty to get over this section very few interruptions were experienced and those only of a short duration.

PRINCETON TO COPPER MOUNTAIN SECTION (14 MILES.).

This line was built out from Princeton last year and has proved one of the best revenue producers we have. The revival in the copper industry has opened up considerable work in the mines in that district. On account of the British Columbia Copper Company building a power line up to the mines it will necessitate us metallicing our telephone line to overcome the induction we will get but as the distance is short the expense will not be very heavy.

NELSON TO TRAIL SECTION (61 MILES).

This line is in the Kootenay District. It runs south from Nelson as far as the boundary line. As it was only built last year very little trouble was experienced, most of the interruptions being caused by wind falls; it runs most of the way through a timbered country. Very satisfactory business was revived during the year and the service greatly appreciated by the public.

PROCTOR TO CRESTON SECTION (61 MILES).

A year ago this line was opened as far as Sidar, at the east end of Kootenay lake. During the year, it was extended 13 miles farther to Creston, B.C. As there was only a small appropriation available, it was built for seven miles on trees, but the pole line will be completed this summer. By building this extension it brought the several shipping points on Kootenay lake in touch with Creston, which is the shipping centre for that district.

NAKUSP-EDGEWOOD SECTION (60 MILES).

Several improvements were made last year in the service on this section. At Edgewood, the line was extended 10 miles to the internment camp, which was located

there. New offices were opened at Scarwood, Riverdale, Internment camp, Army Service camp and Provincial Road Superintendent's office.

The line was overhauled during the year and has been kept running with but very few interruptions. The telephone was greatly appreciated in this section this past winter, as the Arrow lakes were frozen up two months and for several weeks at a time they had not even mail service. The business last year exceeded any previous year.

GOLDEN-WINDERMERE SECTION (88 MILES).

The service on the Golden-Windermere line has been very satisfactory during the past year. As the line was rebuilt only a year ago it is in first-class shape and the maintenance has been light. Several additional phones have been installed on the Athalmer and Golden Exchanges; an improved 15 hours service inaugurated last April, with the additional help of one operator each at Athalmer and Golden exchanges.

All crossings of our telephone lines over the railway tracks have been standardized throughout the districts and made to conform with the rules of the Railway Board Commissioners.

Advice of any changes in the staff and the subscribers on the local exchanges have been sent in each month during the year on the monthly service sheet.

Linemen's weekly reports are regularly received at this office and filed, also a monthly material report received.

Although there has been very unsettled conditions, brought about by the war and a financial depression throughout this part of the country during the past year, I am glad to report an excess in business and a fair increase in revenue, and the number of messages handled this past year over the previous year, as shown by the comparative statement attached.

All of which I have the honour to submit.

Yours faithfully,

W. H. STEVENS,
Superintendent.

REPORT No. 13—VANCOUVER ISLAND AND YUKON LINES.

VANCOUVER, B.C., June 1, 1916.

D. H. KEELEY, Esq.,
General Superintendent, Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—I beg to submit herewith my annual report, covering the operation of Yukon telegraph system, and the Vancouver island lines for the fiscal year 1915-16.

YUKON TELEGRAPHS.—MAIN LINE, ASHCROFT TO INTERNATIONAL BOUNDARY BELOW DAWSON.

Working conditions on the main line, during the past year, have been excellent, few interruptions occurring, and these were of such short duration that no delay of any consequence was caused to the traffic. The interruptions mentioned were in most instances caused by bush fires, during the early summer months, in the districts between Quesnel and Hazelton and along the Yukon river.

There has been a continued diminution in business, owing to war conditions and local readjustments at new centres after the discontinuance of railway construction, but indications point to a revival in the near future, and a steadier growth.

General repair gangs were employed on the various sections of the main line between Hazelton and Dawson. The repair gang working out of Hazelton recon-

structed and repoled ninety miles of line. This gang also erected new refuge cabins at the following points: New home cabin at First Cabin; half-way between First and Second Cabins; quarter-way north of Second Cabin; quarter-way south of Second Cabin; quarter-way south of Third Cabin; quarter-way north of Third Cabin; half-way between Third and Fourth Cabin.

The line was also moved from the old trail to the new Government highway, between Kispiox and First Cabin.

The new work is of first-class construction, twenty-one hundred and thirty-one (2,131) cedar poles of standard measurement being put in the line.

A further improvement in the line, in the neighbourhood of Hazelton, was made by the repoling of the line from Hazelton to Two Mile, and the loop between Two Mile and New Hazelton. One hundred and forty-eight (148) new cedar poles were used in this work.

North and south of Telegraph Creek, three men were employed in assisting the regular linemen resetting poles and brushing out right of way, as well as making repairs to the pack trail. Next season it will be necessary to repole the line between Telegraph Creek and Nahlin, and as far south from Atlin as the appropriation and the season will permit. Between Atlin and boundary two gangs were employed and the repairs made during the season consisted of the following work:—

New poles put in, 1,123; old poles reset, 491.

The cutting of such timber as endangered the work of the line, repairing such wire suspension bridges as were in bad order, and relocating the line in a number of places, where landslides and forest fires made it necessary for future safety.

The past season was the dryest in the southern part of the Yukon territory, and the northern part of British Columbia in many years, and as a consequence the cost of repairing damage caused by fires was $1,528.85.

HAZELTON-PRINCE RUPERT-STEWART.

This line has worked very satisfactorily during the past year, and a through circuit between Vancouver and Prince Rupert has been maintained, giving excellent service to our customers. Considerable local work was done on the various sections by the resident linemen, with the assistance of an extra man for a few weeks during the months of July and August. One hundred and eleven (111) new cedar poles were put in on the Cannery section, between Prince Rupert and Haysport, and sixty-seven (67) between Telegraph Creek and Hole-in-the-Wall. On the Hole-in-the-Wall section twenty-four (24) new poles were placed and fifteen miles of line underbrushed, the latter is very heavy along the Skeena river and grows rapidly, requiring constant work to keep it down.

Substantial and necessary repairs were carried out on the Kitwangar-Hazelton section. Six and one-half (6½) miles of new line was built, four hundred and thirty-five (435) new poles were used, and the line placed along the new highway. A new refuge cabin was built on the old site, at the big cut off, near Andimaul. On the branch from Terrace to Stewart, repairs were made by the local linemen and operators. On the Aiyansh section, eighty-six (86) new poles were used, and the line moved from the bluffs on Lava lake to a safer and more accessible location, for a distance of two miles.

ASHCROFT-LILLOOET BRANCH.

Some repoling and resetting of poles was done in the past season by a small crew, which sufficed to keep the line in working order, and next season a thorough overhauling will be undertaken, as an appropriation for that purpose has been obtained. Business has been fair and the resumption of railway construction should increase the volume of business at points along the line.

150 MILE HOUSE—BELLA COOLA.

The usual general summer clean up and repairs, by the local linemen, was all that was necessary to keep this line in good working order. Some trouble was experienced during the summer months, between Canoe Crossing and Hagensburg, by road gangs constructing the new highway. Our line in this section will require to be moved to the highway next summer, and an appropriation for this purpose is being asked for.

HORSE FLY BRANCH.

General repairs of a temporary nature were made to this line by a small gang from Quesnel Forks and 150 Mile House, respectively, and next season it is intended to repole the greater portion of the line, as the present poles are beyond resetting.

BARKERVILLE BRANCH.

During the past year, the poles along this line between Cottonwood and Barkerville have shown signs of rapid decay and resetting and partial repoling will be required next season.

QUEEN CHARLOTTE ISLANDS.

The lines on the islands have worked very satisfactorily, during the past season, and are in good condition. Business is normal, and an improvement is anticipated with the opening of the canning season, as several new canneries are expected to commence operations. Mining, which at one time was expected to be the main industry, has not been very active of late, but with the present high price of minerals, a new impetus is being given, and the resumption of development work is beginning.

LILLOOET—LYTTON LINE.

This line has been maintained in good working order with very little expense. Several new telephone offices have been opened, and a small local exchange, of seven subscribers each, has been installed at Lytton and Lillooet at the standard monthly rental.

LILLOOET—PIONEER MINES.

Several new offices were opened on this line during the past year and the line was operated very satisfactorily to all concerned. It is intended next season to metallic the section between Lillooet and Mission mountain (12 miles), as the induction from the P. G. & E. wires causes interference. Some repairs to the section between Mission and Pioneer Mines will also be necessary as the heavy sleet and wind storms, which prevail during the winter months in that high altitude, have seriously damaged the line in a great many places.

VANCOUVER ISLAND LINES.

The operation of these lines, during the past season, was very satisfactory, and an increase in business was experienced at a great many points. Interruptions were infrequent, and of short duration, with the exception of a period of several days in February, when, owing to the unprecedented heavy snowfall, considerable damage was done to the line at various points, and for the first time since these lines have been in operation it was found necessary to supply the lineman with snowshoes, as the highways were so blocked with snow that horses could not be used.

Apart from the usual annual overhauling on each section, that portion of the line between Gibsons Landing and Sechelt, a distance of 14 miles, was entirely repoled,

and the line placed along the main road, resulting in improved operation and an entire absence of interruptions since the work was completed, where formerly they were of frequent occurrence, owing to the location of the line through heavy timber.

A short piece of line, four (4) miles in length, was constructed from San Josef Bay to Sea Otter Cove, giving connection to the latter place, which is an important harbour on the west coast.

Considerable trouble was experienced with our cable between Quathiaski Cove and Campbell River, owing to the rocky formation and the strong tides that surge through Seymour narrows at this point; the shield wires and core were found to be worn through. The services of the Pacific Coast Cable Company's repair outfit was necessary to make repairs, and in relaying, another landing was selected to endeavour to avoid the reefs upon which it formerly rested.

The line between Campbell River and Cape Scott suffered severely during the fall months from the gales, that are of such frequent occurrence along the Johnston straits, but the men at Rock Bay and Beaver Cove did such good service in making repairs that very little delay was occasioned to traffic.

The automatic repeaters installed at Campbell River last year were removed to Powell River, and another set installed at Parksville as well. This has further improved the telegraph circuit between Vancouver and Victoria.

Several recommendations for new extensions have been made, and if appropriations are secured next season, a cable connection will be made with Sointula on Malcolm island, where there is a large colony of Finlanders; also telephone connection between Fishermen's Cove and Shushartie Bay, a distance of twenty-five (25) miles, will be constructed.

CLAYOQUOT BUILDING.

A new building, similar to the one erected at Tofino last year, was constructed at this point during the summer, at a cost of twenty-four hundred and fifty-five dollars ($2,455), giving accommodation to the telegraphs and post office, as well as living quarters for the operator and his family.

Yours truly,

J. T. PHELAN,
Superintendent.

REPORT NO. 14—C.G.S. *TYRIAN*.

GRAND MANAN, March 31, 1916.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraphs,
Ottawa, Ont.

DEAR SIR,—Herewith please find summary of the work done, and lengths of cable handled by the ss. *Tyrian* during the past year.

I have the honour to be, sir,
Yours faithfully,

A. B. McDONALD,
Electrician, ss. Tyrian.

1915.

April 26.—(Undergoing repairs). Shipped cable to St. John, N.B.
Oct. 21.— " " Wireless telegraph installed.
" 29.—Trial trip in Bedford Basin.
Nov. 1.— " "
" 2.—Six hours trial trip at sea.
" 17.—Sailed for North Sydney.
" 20.—Took in coal and water.
" 22.—Sailed for repair of Long Point cable.
" 24.—Arrived on cable ground.
Dec. 10.—Sailed for Magdalen Island, cable repair.
" 29.—Navigation closing in Gulf of St. Lawrence, went to Big Bras d'Or.

1916.

Jan. 3.—Repaired Big Bras D'Or cable. Went North Sydney to ship cable.
" 10.—Shipped 800 feet S.E. cable to Victoria, B.C.
" 14.—Coaled ship.
" 19.—Sailed for repair of Scatari cable.
" 26.— " " Port Au. Basque—Canso cable.
Feb. 3.—Arrived back at Halifax.
" 21.—Cleared for work in Bay of Fundy.
" 24.—Made survey for cable to McNutts Island, N.S.
" 28.—Sailed for Seal Island repair. (Deferred work for return trip).
Mar. 6.—Sailed for Grand Manan.
" 10.—Took in fresh water.
" 18.—Completed diversion Deer Island cable.
" 27.—Repaired Gannet Rock cable.
" 28.—Laid cable across Lubec channel.
" 30.—Laid cable Whale Cove-Meadow Brook, Grand Manan-Campobello.
" 31.—Taking in fresh water.

Dates.	Deep-sea Cable.	Knots.	Knots.
1915.			
Feb. 1	Cable on hand		2.33
" 7	Received from *Sagamore*		23.00
April 26	Sent to St. John, N.B.	0.75	
May 12	Sent to Levis, Que.	3.00	
Nov. 27	Long Point Cable, picked up		1.15
" 27	" laid	1.64	
" 27	Condemned	0.50	
1916.			
Mar. 13	Dear Island, Cable picked up		2.03
" 13	" laid	2.48	
" 20	" picked up		0.10
" 20	" laid	0.20	
" 28	Laid across Lubec channel	0.25	
" 30	Laid Whale Cove-Meadow Brook	9.70	
" 31	Cable on hand	10.09	
		28.61	28.61

SHORE END CABLE.

1915.			
April 1	Cable on hand		1.88
1916.			
Mar. 30	Laid Whale Cove-Meadow Brook	0.55	
" 31	Cable on hand	1.33	
		1.88	1.88

FOUR CORE CABLE.

Mar. 31	Cable on hand		1.19

TWO CORE CABLE.

Mar. 31	Cable on hand		1.50

I have the honour to be, sir,

Yours faithfully,

A. B. McDONALD,

Electrician ss. Tyrian.

REPORT OF THE COLLECTOR OF REVENUE

DEPARTMENT OF PUBLIC WORKS

1915-16

REPORT OF THE COLLECTOR OF REVENUE.

OTTAWA, August 16, 1916.

The Secretary,
Department of Public Works,
Ottawa.

SIR,—I have the honour of submitting my report for the twelve months ended March 31, 1916.

During the year just closed the revenue accrued from public works shows an increase of $24,222.37, being $272,863.68, while in the preceding year it was $248,641.31. The collections also show an increase of $32,641.92, being $262,573.04, while in 1914-15 they amounted to $229,931.12.

The revenue accrued from slides and booms was $108,227.41, or $27,618.12 more than for the year ending March 31, 1915. The collections were $108,227.41, or $27,629.29 more than for the previous year. The outstanding uncollected revenue from slides and booms remains at the same figure as in 1914-15.

The graving docks yielded $64,216.24, or $18,911.68 more than in 1914-15.

Sales and rents collected amounted to $90,129.39, being $23,899.05 less than the preceding year.

Having dealt with the revenue in a general way, I now submit the particulars in detail, relative to the several services under their respective heads.

SLIDES AND BOOMS.

OTTAWA DISTRICT.

The tolls charged up amounted to $31,267.61, or $4,077.20 less than in 1914-15. The number of saw logs that passed through the works was 3,911,904, or 242,951 pieces less than the previous year. Of square timber there was none.

All the revenue accrued during the year was collected. Of the dues accrued since July 1, 1889, when this department took over the collection, there remains uncollected $9,161.61, full particulars of which will be found in statement No. 2 herewith. Of the dues accrued before July 1, 1889, there still remains $56,805.65, all of which should be written off. (See statements Nos. 1 and 3 for particulars.)

The accounts for the Ottawa District stand thus:—

Dues accrued during the year to March 31, 1916	$31,267 61
Outstanding, March 31, 1916	9,161 61
	$40,429 22
Collected	31,267 61
Balance outstanding March 31, 1916	$9,161 61

Being composed of:—		
Dues of 1889-90	$6,903 05	
" 1890-91	28 42	
" 1892-93	379 80	
" 1896-97	196 71	
" 1903-04	637 37	
" 1911-12	723 63	
" 1912-13	251 15	
" 1913-14	25 31	
" 1914-15	16 17	
	$9,161 61	
Balance of dues outstanding prior to July 1, 1889, when this department took over the collection		$56,805 65

Herewith are statements in detail.

No. 1.—Statement of amounts outstanding prior to July 1, 1889, uncollected March 31, 1916.

No. 2.—Statement of dues accrued at Ottawa since July 1, 1889, uncollected March 31, 1916.

No. 3.—Statement of dues accrued at Quebec prior to July 1, 1889, uncollected March 31, 1916.

No. 4.—Statement of the number of pieces of square timber, sawlogs, etc., which passed through the Ottawa works during the year ended March 31, 1916.

No. 5.—Statement of dues accrued from each of the slides and works of the Ottawa district during the year ended March 31, 1916.

Apart from two accounts amounting to $1,044.68, all the revenue from the Ottawa slides and booms, since I took charge in 1889, has been collected, excepting such as should have been written off long ago, or a few items in dispute which I expect will have to be forgiven.

The number of sawlogs which passed through the works during the past year was 242,951 less than during the previous season, and there were 20,904 cords of pulpwood less than in 1914-15.

The works wherefrom the revenue was less than in 1914-15 were:—

Cheneaux boom	$ 995 60
Petewawa	1,245 93
Dumoine	138 13
Black river	4,358 66
	$6,738 32

Those from which a greater revenue was derived were:—

Main Ottawa	$ 602 11
Madawaska	645 85
Coulonge	750 37
Gatineau	662 79
	$2,661 12

Deducting this amount leaves a total decrease as above stated, $4,077.20.

I expected a considerably greater revenue than we had in 1914-15, but the absence of rains during the driving period so seriously affected the supply of water in the smaller streams that, in some of them, large quantities of logs were held up for want of water. In fact, the dues on timber so held up belonging to one concern alone would amount to more than the whole shortage of last season.

So far this year, there has been a great supply of water, too much in fact in some places at the beginning of the season.

Just above Ottawa, the high water and the river being at full flood, a boom above the Chaudière falls broke, and some 150,000 logs passed through the falls. There would be somewhat of a loss to the owners, but they were recovered and sawed at some of the mills below Ottawa.

The cut during the past winter was probably below the average, due partly to scarcity of labour, but principally to lack of transportation for the manufactured lumber, which conditions are not likely to be changed for the better as long as the war lasts.

ST. MAURICE DISTRICT.

The revenue accrued from this district was $74,723.35, being $31,439.57 more than in 1914-15. The collections amounted to $74,723.35, or $31,434.57 more than in 1914-15. With the exception of an item of $3.709.62 dues of 1909-10, disputed, all the dues accrued in this district since I took it in 1892 have been collected.

The amount outstanding prior to July 1, 1892, remains unchanged, viz., $14,481.49, and should be written off for reasons assigned in statement No. 6 herewith.

The number of pieces of all kinds of timber that passed through the works was equivalent to 9,506,300 pulp and sawlogs, or 3,761,009 pieces more than the previous year.

Remarks.—During the winter of 1914-15 while, on the whole, the snowfall was considerable at times, it was barely sufficient for hauling logs, especially in the rougher sections, but this proved a blessing in disguise, because the scarcity of snow was due to rains and thaws following the snowfalls, and the resultant almost immediately became ice, so that there were in some parts large areas covered with ice to a depth of from 15 to 18 inches. The gradual melting of this ice in the spring of 1915 produced a supply of water in the lakes and reservoirs, which, notwithstanding the absence of rain to any extent, kept the main river at a good driving pitch for the whole season. Nevertheless, fearing shortage of water, there was great anxiety lest the unusually large number of logs to be handled at La Tuque, Grand'Mère, Shawenigan Falls and Three Rivers should fail to reach the latter before the close of the sawing season. Hence, there were numerous complaints to the department that the firms at the three first named points were not sorting the daily quantities required in order to pass the logs in the proper time. Consequently, the district engineer was busily occupied in the endeavour to keep the concerns complained of up to the mark. However, when the season closed, all the logs which had been driven from La Tuque down reached their destination in good time to be cut up.

The following table shows the number of logs handled at the different points during the summer of 1915. These figures are the result of an average, not continuous counting at any of the points. Hence, the total does not agree with the actual register of logs cut up at the different mills.

Logs sorted on the river St. Maurice, season 1915 and 1914.

	1915.	1914.
La Tuque	10,307,122	4,911,139
Grand'Mère	10,314,226	5,890,390
Shawenigan Falls	6,406,823	2,901,248
Three Rivers	3,441,864	1,667,940

As the figures for Grand'Mère were only daily averages, a close scrutiny of the returns from the mills showed that the quantity was excessive, for instead of 10,314,226 in 1915, the actual sorting was 8,567,528 pieces, making a total received at the mills at Grand'Mère, Shawenigan Falls and Three Rivers, 9,457,528, but the number actually paid for was 9,506,300. The difference, 48,772, being logs which escaped under the sorting booms at Three Rivers, and consequently were not included in the number counted out.

This year, the river was unusually high, but owing to a change in handling the logs, no delay was attributable to the sorting. Hitherto, it has been the practice to

hold all the upper St. Maurice logs at La Tuque, where those of the Brown Corporation, about two million pieces, were separated from those intended for Grand'Mère and points below. This year, however, the Brown Corporation held back their logs, and allowed the down-river timber to pass down. At Grandes Piles and Little Piles, the river was so changed by the water backed up by the new dam at Grand-Mère, the current carried the bulk of the logs outside the boom set as usual instead of inside. Consequently, over four millions pieces passed down to the booms at Shawenigan Falls and the islands above, of which about two millions were held at the Pointe à Bernard boom, which was strained almost to the breaking point, and serious disaster was only averted by reinforcing the boom with wire cables secured to anchorage on the shore.

On the 4th May, the pressure became so great, the Brown Corporation were asked to close their boom and hold back the logs from above La Tuque, and but for their complying with this request, it was difficult to conjecture just what might have occurred.

It would seem, however, that notwithstanding the time gained by the policy at La Tuque, the passage of the logs at Grand'Mère would be much delayed in consequence of the current being so weakened by the back water from the dam now nearing completion, which is being built by the Laurentide Co. With a slight headwind, the logs are almost motionless after leaving the sorting gap. The only remedy, to my mind, is to tow the logs to the dam with tugs, of which there are two available.

In consequence of the building of this dam, a change will have to be made in the holding booms at Grandes Piles, involving the construction of two or three piers and considerable boom. In order to meet the ever increasing business on the St. Maurice, this work should be constructed during the coming winter. I might say here that as we had a surplus of $20,000 on the business of 1914-15, and I anticipate a similar profit of from $5,000 to $10,000 this year the cost of constructing such new works as are absolutely required would not be a drain upon any other government fund.

As so many logs passed La Tuque and Grand'Mère without being sorted it is very difficult to estimate, with any accuracy, the actual quantity in the river at this date, but it is certain that unless open weather prevails until late in the year, a considerable number of logs will winter in the river, for only a few days ago all the booms from Grandes Piles to Shawenigan Falls were filled almost to capacity, and considering the unfavourabble conditions created by the dams at Grand'Mère and Shawenigan Falls, the scarcity of labour, and other factors, it will require a tremendous effort to get all the logs intended for Three Rivers to their destination in time. There is every probability that in the near future the methods of handling the logs on the St. Maurice will have to be completely changed. The difficulties met with this year will be increased by the development of power at the Grés falls and the Forges rapids, both of which are below Shawenigan Falls and above Three Rivers. That at the Forges is intended to supply power for a large pulp and paper plant which is to be constructed at Three Rivers or some near-by locality, but the raw material, namely pulpwood, is to be prepared at Three Rivers. The new conditions are giving those concerns considerable anxiety, and the solution of the problem will not be easily arrived at, if present ideas prevail, namely, that exchange of logs between the up-river firms and those of Three Rivers would not be satisfactory, although the great bulk of the logs made to-day by nearly all the firms is gotten out for making pulp and paper.

NEWCASTLE DISTRICT.

The dues accrued from this district amounted to $634.54, being $211,94 less than the previous year, all of which has been collected at this date.

The totals outstanding on March 31, 1916, amounting to $3,556.89, of which $3,521.19 should be written off in accordance with a judgment in the Exchequer Court. $35.70 will also have to be forgiven the debtor being hopelessly insolvent at the time of his decease. Full particulars of the amount outstanding will be found in statement No. 7 herewith.

SAGUENAY DISTRICT.

The dues accrued during the year ended March 31, last, amounted to $1,601.91, all paid, being $467.69 more than in 1914-15. That the dues this year were greater than last was because Messrs. Tremblay and Gagnon took out and sold to the Chicoutimi Pulp Company, a considerable quantity of logs which were delivered to that company below the government boom. During the current year, there were no logs for the Pulp Company, hence, I do not expect that the revenue will be more than $1,000.

GRAVING DOCKS.

LEVIS GRAVING DOCK.

The revenue from this service was $22,264.08, being $8,268.18 more than the previous year (see statement No. 8). Of the 215 days the dock was occupied during the year, it was used for 157 days by H. M. and C. G. vessels.

The total number of vessels docked was 31, of 71,287 tons.

The revenue was $9,186.97 more than for the year 1914-15, being $30,495.63 (see statement No. 9). During the season of navigation, the dock was occupied for 211 days by 23 vessels of 48,969 tons.

During the winter of 1915-16, it was occupied by dredges *Fruhling* and *Ottawa, SS. Cascapedia, Gaspesian* and *Lady Evelyn.*

KINGSTON GRAVING DOCK.

On May 1, 1910, the Kingston Shipbuilding Company took possession of this dock under lease, the rental of which, $10,000 per annum, was payable at the end of each year. One of the conditions of the lease was that they should erect and keep in running order a repair plant, but this business, they claim, did not come up to expectations. On the contrary, it resulted in serious losses, and they have been urging the Department to reduce the rental for this reason.

In the meantime, we have obtained $10,000, being one year's rent to 1st May, 1914, leaving actually owing at the end of the year 1915-16, $10,000.

SELKIRK REPAIR SLIP.

On the 17th April, 1915, by Order in Council, rules and regulations for the management and working of the slip at Selkirk, Manitoba, were authorized, and the first vessel to be taken up on the slip was the steamer *J. M. Smith*, the date being 31st May, 1915. As the boats on the waters served by this slip are of small tonnage, the dues in the individual cases are not large. Nevertheless, during the last fiscal year the revenue on this account was $1,456.53, for details of which please see statement No. 10. The total number of vessels drawn up on the slip during the season of navigation was twenty-five. The total tonnage was 4,545. Of these, eight vessels measuring 1,750 tons were owned by the Dominion Government, the dues on which were $477.23. The remaining seventeen vessels of 2,795 tons belonging to private concerns paid $979.30.

RENTS.

Separate accounts have been kept of the rentals under leases granted by this department, but which were formerly collected by the Inland Revenue Department, which accounts were taken over on the 31st March, 1909. Statements Nos. 11 and 12 show in detail the condition of these accounts from 31st March, 1916. Statement No. 13 shows the condition of the land sales and interest account which was also taken over from the Inland Revenue Department. Several of the unsettled accounts are of many years standing, and I doubt if very much will be realized from them. Exclusive of the

above mentioned rentals the revenue accrued from government properties has been in 1915-16, including sales and interest, $96,902.03, or $22,301.43 less than in 1914-15.

This account stands thus:—

Balance from former years	$ 21,614 05
Accrued year ended March 31, 1916	96,902 03
	$118,516 08
Collected	$86,644 39
Written off	9,816 68
Balance due March 31, 1916	22,055 11
	$118,516 08

The amount written off, namely $9,816.68, is composed of commission on collections, cost of maintenance, allowed in lieu of repairs or cancelled on account of poverty, etc. Of the amount uncollected, $22,055.11, I hope to see this reduced substantially this year, although a very considerable portion will have to be forgiven, some of the parties having disappeared, and others being too poor to pay.

The rentals from the Wellington street property are considerably less than in 1914-15, because the greater part of the Wellington street front and many of the other better class buildings having been taken and are now being used for government offices, etc. The same condition applies to the large property expropriated for post office in Toronto, Ont.

In the administration of these properties, there are serious obstacles to obtaining as favourable results, rentals, etc., as compared with the same property in the hands of private individuals. The latter can make terms, periods of leases, etc., as they see fit, but we cannot give any assurancee in most cases for more than a thirty day term, as we do not know when some of these properties may be required for government purposes. Hence, we cannot expect to obtain as good rentals as parties who can give a lease for one or more years, and I may say here that this condition makes it difficult for our agents even to retain the tenants we may have. The four agents who look after the Wellington street property have done their work well, and I do not anticipate much loss of rent, except perhaps from unavoidable misfortune to some of our tenants.

The following is a summary of rents collected from public properties during the year ended March 31, 1916, viz.:—

Hydraulic and other rents	$ 3,485 00
Ottawa, Sussex street	2,141 00
" Egan block	4,649 96
" Wellington street north	49,411 22
Toronto post office site	17,119 61
Province of Manitoba	441 00
Victoria and Vancouver, B.C.	3,426 50
Public building sites	6,184 67
Sundry places	1,405 43
Sales and interest	1,865 00
	$90,129 39

Annexed hereto is a comparative table of the Public Works revenue accrued and collected for the year ending March 31, 1916, compared with that of the fiscal year ending March 31, 1915.

Before closing, I wish to thank the officers of the department with whom I have been brought in contact during the past year for their uniform courtesy shown me at all times.

EDW. T. SMITH,
Collector Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
Ottawa, August 16, 1916.

SESSIONAL PAPER No. 19

COMPARATIVE Table of Public Works Revenue accrued during the year ended March 31, 1916, compared with that of the Fiscal Year ended March 31, 1915, and amount of collections on account of same.

—	Year ended March 31, 1916.	Year ended March 31, 1915.	Increase 1916.	Decrease 1916.
	$	$	$	$
Slides and Booms—				
Ottawa district	31,267 61	35,344 81	.....	4,077 20
St. Maurice district	74,723 35	43,283 78	31,439 57	
Newcastle	634 54	846 48	.....	211 94
Saguenay district	1,601 91	1,134 22	467 69	
Increase 1916, $27,618 12	108,227 41	80,609 29	31,907 26	4,289 14
Graving Docks—				
Esquimalt, B.C.	22,264 08	13,995 90	8,268 18	
Kingston, Ont.	10,000 00	10,000 00		
Levis, P.Q.	30,495 63	21,308 66	9,186 97	
Selkirk Repair Slip	1,456 53	.....	1,456 53	
Increase 1916, $18,911 68	64,216 24	45,304 56	18,911 68	
Rents and Sales—				
Hydraulic rents	3,492 00	3,498 00	.....	6 00
Minor public works	26 00	26 00		
Other public properties	96,902 03	119,203 46	.....	22,301 43
Decrease 1916, $22,307 43	100,420 03	122,727 46	.....	22,307 43
Accrued—				
Slide and boom dues	108,227 41	80,609 29	27,618 12	
Graving docks	64,216 24	45,304 56	18,911 68	
Rents and sales	100,420 03	122,727 46	.....	22,307 43
Increase 1916, $24,222 37	272,863 68	248,641 31	46,529 80	22,307 43
Collected—				
Slide and boom dues	108,227 41	80,598 12	27,629 29	
Graving docks	64,216 24	35,304 56	28,911 68	
Rents and sales	90,129 39	114,028 44	.....	23,899 05
Increase 1916, $32,641 92	262,573 04	229,931 12	56,540 97	23,899 05

EDW. T. SMITH,
Collector Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
Ottawa, August 16, 1916.

No. 1—STATEMENT of Slidage and Boomage from the Ottawa Slides and Works, accrued prior to July 1, 1889, outstanding March 31, 1916.

By Whom Due.	Bad and Doubtful Debts.	Chaudière Boomage in Suspense.	Other Slide and Boom Dues Disputed.	Total Outstanding on Sept. 30, 1902.	Year to which Dues belong.	Remarks.
	$ cts.	$ cts.	$ cts.	$ cts.		
John and Wm. McLean	53 14			53 14	1873	Insolvent.
John Rowan	342 50			342 50	1872-1873	"
Lemieux and Charette	21 30			21 30	1873	"
Faillon and Lapierre	148 10			148 10	1873-1874	"
Mosgrove and McHarry	261 42			261 42	1873-1874	"
W. C. Wells	600 90			600 90	1873-1874	"
Dufresne and McGarity	528 80			528 80	1874-1875	"
Walton Smith	171 46			171 46	1874-1875	"
A. H. Baldwin	3,507 92			3,507 92	1871 to 1874	"
Hon. James Skead	9,807 65			9,807 65	1861, 1863, 1864, 1869, 1875 to 1878.	"
Batson and Currier	5,558 70			5,558 70	1875 to 1877	"
A. F. A. Knight	546 30			546 30	1878	"
James Walker	11 25			11 25	1877	"
R. Campbell & Son	1,558 50			1,558 50	1879 to 1881	"
James G. Bryson	73 50			73 50	1886	"
Costello Bros.	90 62			90 62	1882	"
N. E. Cormier	428 34			428 34	1883	"
James Yuhill	9 29			9 29	1876	Overcharge.
J. and B. Grier	76 84			76 84	1883	"
R. and W. Conroy	95 42			95 42	1882-1883	" reported in return S—38, for March, 1886.
A. P. White	101 00			101 00	1881	"
R. Caldwell & Son	4 33			4 33	1887	"
J. R. Booth		9,871 93	398 88	10,270 81	1881 to 1888	$398.88, counter claim for damages by the breaking of Coulonge boom.
Perley and Pattee		8,889 85		8,889 85	1881 to 1888	
The Bronson and Weston Lumber Co.		8,180 79		8,180 79	1881 to 1888	
Pierce & Co		462 18		462 18	1888	
G. A. Grier & Co		1,060 59		1,060 59	1886-1887	*Chaudière boomage. These parties claim that they have maintained these works wholly at their own expense since 1881.
Estate late Levi Young		1,461 20		1,461 20	1881 to 1885	
Wm. Mason		413 85		413 85	1881 to 1888	
Gilmour & Co		406 27		406 27	1884	
John Rochester		258 88		258 88	1881 to 1883	
J. and G. Bryson			252 20	252 20	1886	Counter claim for damages by the breaking of Coulonge works.
	23,997 28	31,006 54	651 08	55,653 90		

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

EDW. T. SMITH,
Collector of Slide and Boom Dues.

No. 2.—STATEMENT of Slide and Boom Dues accrued from the Ottawa River Works, since July 1, 1889, outstanding March 31, 1916.

Name.	Year to which dues belong.	Chaudière Boomage in Suspense.	Ordinary Dues.	Totals.	Remarks.
		$ cts.	cts.	$ cts.	
J. R. Booth.	1889-90	2,561 69		2,561 69	
The Bronson & Weston Lumber Co.	1889-90	2,056 96		2,056 96	Chaudière boomage reported to Council and referred to Treasury Board.
Perley & Patee	1889-90	1,203 26		1,203 26	
Wm. Mason & Sons	1889-90	167 66		167 66	
Pierce & Co	1889-90	913 48		913 48	Should be written off.
Alex. Fraser, Acct. Thos. Stephens	1889-91		28 42	28 42	Legal action taken to recover this.
J. R. Booth.	1892-93		379 80	379 80	Retained by Mr Booth in settlement of account due him, which the Auditor General refused to pay as Mr Booth appeared to be in arrears in this and statement No. 1.
Bryson & Fraser	1896		196 71	196 71	Have counter claim for work done on slide to this amount.
J. R. Booth.	1903		339 27	339 27	Petawawa slidage disputed.
Hawkesbury Lumber Co.	1903		298 10	298 10	" " "
Pembroke Lumber Co.	1911-2-3		1,016 26	1,016 26	Counter claim for building dam.
		6,903 05	2,258 56	9,161 61	

EDW. T. SMITH,
Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

No. 3.—STATEMENT of outstanding Slide Dues, Ottawa district, bonds for which were sent to Quebec for collection.

Name.	From 1860.	From 1861.	Total.
	$ cts.	$ cts.	$ cts.
Hon. James Skead	245 00	210 00	455 00
James Mair		696 75	696 75
	245 00	906 75	1,151 75

These amounts were uncollected, as the parties claimed damages for loss caused by the Madawaska boom breaking in 1860.

A decision on their claims was not arrived at till August 2, 1869. On the 5th idem, Messrs. Skead and Mair were notified that the department could not recognize their claim.

To the best of my knowledge, this decision was never communicated to the Collector of Slide Dues; consequently, these amounts remained in abeyance.

Since then, both parties died, and I believe both were insolvent at the time of their death.

EDW. T. SMITH,
Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

STATEMENT of the number of pieces of Square Timber, Saw-logs, etc., that passed through the Government Slides and Works on the Ottawa River and its tributaries during the Fiscal Year ended March 31, 1916.

	Pieces.
Square timber	None.
Saw-logs	3,911,904
Boom and dimension timber	31,308
Railroad ties	105,406
Fence posts	27,327
Telephone poles	1,509
	4,077,452

: Also 51,580⅛ cords pulpwood.

The revenue accrued on the above was $31,267.61.

EWD. T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

No. 5.—STATEMENT showing the Dues accrued on the undermentioned works on the Ottawa River and its tributaries during the Fiscal Year ended March 31, 1916.

River or other Improvements—	Amount.
Main Ottawa	$ 1,895 76
Cheneaux boom	3,193 28
River Petawawa	8,079 11
River Madawaska	801 18
Coulonge	4,142 48
Dumoine	145 87
Black River	4,347 44
Gatineau	7,662 49
	$31,267 61

EWD. T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

SESSIONAL PAPER No. 19

No. 6.—STATEMENT of Slide and Boom Dues from the St. Maurice slides and works outstanding on March 31, 1916.

Name.	Year to which dues belong.	Amount.	Total.	Remarks.
		$ cts.	$ cts.	
George Baptist, Son & Co.	1878	469 95		
" ..	1879	3,110 62		
" ..	1880	1,696 18		
" ..	1881	293 69		
" ..	1882	165 80		Have counter claims for damages to logs caused by the booms not being stretched early enough in the spring of 1878 to prevent the logs going over the chute.
" ..	1884	118 50		
" ..	1888	4 28		
			4,859 02	
Ross, Ritchie & Co.....	1878	3,072 84		The claims were submitted to Special Commissioner, Mr. McDougall, afterwards Judge, who, after hearing the evidence on both sides, recommended that the claims of the parties should be allowed.
"	1883	2,173 68		
"	1884	38 96		
"	1886	1 62		
"	1887	4 38		
			5,281 48	
Alex. Baptist.....	1879	..	2,116 96	
Wm. Ritchie & Co.....	1888	779 24		
"	1889	332 11		
			1,111 35	Of this amount $754.20 is claimed to be an overcharge. Insolvent.
Ritchie Bros.....	1886	413 43		
"	1887	634 71		
			1,048 14	This amount is composed of overcharges in 1886 and 1887 of $442.76 and overpayment in 1884 of $205.38.
G. B. Hall	1890	....	49 34	Insolvent.
T. E. Normand.....	1890	.. . .	42 28	Claims that this balance is an overcharge.
Treffé Biron.....	1891	....	0 92	Would cost more to collect than it is worth.
			*14,481 49	
Laurentide Paper Co....	1909	3,709 62	3,709 62	
			18,191 11	

*To make this balance agree with the Public Accounts, there should be deducted $7.93 over credited Alex. Baptist, and $217.17 added thereto, being $190.40 paid July 23, 1884, and $26.77 overcharged in error to Wm. Little, not in any of the collector's returns, which will give balance due September 30, 1894, of $14,690.73.

EDW. T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

No. 7.—STATEMENT of Slide and Boom Dues accrued from the New Castle and Trent River works, remaining uncollected March 31, 1916.

Name.	Year to which dues belong.	Amounts disputed.	Ordinary dues.	Total.	Remarks.
		$ cts.	$ cts.	$ cts.	
Irwin & Boyd	1881	59 79		59 79	Insolvent.
Thomson & McArthur	1880	52 78		52 78	
Jabez Thurston	1882	12 50		12 50	
McDongall & Ludgate	1879	65 07		65 07	
Bigelow & Trounce	1882 to 1885	216 21		216 21	
R. G. Strickland	1882, '83, '85, '86, and '87	215 08		215 08	
Est. late Geo. Hillard	1877 to 1883 and 1889	354 15		354 15	Dead and estate distributed.
T. G. Hazlett	1881, '82, '84, and 1889	885 25		885 25	According to judgment in Exchequer Court, *re* Boyd *vs.* Smith, these cannot be collected.
J. M. Irwin	1882, '83, '85 and '88	698 45		698 45	
D. Ullyot	1881 to 1887	547 68		547 68	
Green & Ellis	1881, '83, '85, '88 and '89	157 01		157 01	
A. W. Parkin	1884, '85, '88, '90 and '91	65 92		65 92	
The Dickson Estate	1883	137 50		137 50	
Alfred McDonald	1888	40 80		40 80	
John Parkin	1889	13 00		13 00	
John Dovey	1894, '95, '96		35 70	35 70	Dead, insolvent.
		3,521 19	35 70	3,556 89	

EWD. T. SMITH,
Collector of Slide and Boom Dues.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

No. 8.—THE DRY DOCK AT ESQUIMALT, B.C.—Statement of Dues and other charges collected during the year ending March 31, 1916.

Name of Vessel Docked.	Tonnage.	Period of Dockage. From	Period of Dockage. To	Dockage Charges.	Other Charges.	Total.
		1915.	1915.	$ cts.	$ cts.	$ cts.
D. G. S. *Lilloet* and *Naden*	705	Mar. 25	Mar. 29	350 00	7 20	357 20
Submarine *C. C. I.*	.....	April 7	Apr. 23	1,225 00	25 20	1,250 20
SS. *Princess Charlotte*	3,844	" 24	" 26	392 20	20 40	412 60
SS. *Prince George*	3,372	" 27	" 28	368 60	.....	368 60
H.M.C.S. *Rainbow*	1,911	" 29	May 8	1,037 92	47 40	1,085 32
Glory of the Seas	2,102	May 15	" 18	483 00	2 40	485 40
Submarine *C. C. 2*	.....	" 27	June 9	875 00	21 60	896 60
SS. *Durley Chine*	1,918	June 14	" 15	295 90	.....	295 90
SS. *Trevince*	3,874	" 18	" 19	393 70	23 40	417 10
Cruiser *Malaspina*	392	" 22	" 25	350 00	10 20	360 20
H.M.C.S. *Rainbow*	1,911	" 26	July 22	2,155 79	112 80	2,268 59
H.M.C.S. *Shearwater*	980	July 24	Aug. 9	692 47	.....	692 47
SS. *Llandudno*	4,187	Aug. 10	" 12	410 00	.....	410 00
SS. *Orange River*	4,708	" 23	" 24	437 50	7 20	444 70
SS. *Lena*	4,850	" 27	" 28	442 50	1 80	444 30
Cruiser *Galiano*	393	Sept. 9	Sept. 13	350 00	9 00	359 00
SS. *El Lobo*	4,800	Oct. 1	Oct. 2	440 00	39 00	479 00
SS. *Otto Treckman*	3,736	" 16	" 18	387 50	61 20	448 70
SS. *Northwestern*	3,497	" 28	" 30	620 00	6 00	626 00
M.M.C.S. *Newcastle*	4,800	Nov. 2	Nov. 12	617 20	.....	617 20
SS. *Princesse Charlotte*	3,844	" 13	Dec. 14	3,442 00	226 20	3,668 20
SS. *Karma*	5,608	Dec. 16	" 17	480 40	21 00	501 40
SS. *Gisella*	2,502	" 18	" 20	327 50	13 80	341 30
Submarine *C. C. I.*	.....	" 22	Jan. 11	1,050 00	106 80	1,156 80
		1916.	1916.			
Cruiser *Malaspina*	392	Jan. 12	Jan. 15	350 00	.....	350 00
Submarine *C. C. 2*	.....	" 17	Feb. 12	1,400 00	64 20	1,464 20
D. G. S. *Lilloet*	574	Feb. 16	" 26	700 00	24 60	724 60
SS. *Gwladys*	3,929	" 29	Mar. 7	397 50	7 20	404 70
Cruiser *Galiano*	393	Mar. 2	" 8	400 00	12 60	412 60
H.M.C.S. *Shearwater*	980	" 9	" 10	250 00	10 80	260 80
Bknt. *Hawaii*	1,085	" 25	" 27	255 00	5 40	260 40
				21,376 68	887 40	22,264 08

EDW. T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

No. 9.—The Dry Dock at Lévis, Que.—Statement of Dues and other charges collected during the year ending March 31, 1916.

Name of Vessel Docked.	Tonnage.	Period of Dockage. From.	Period of Dockage. To.	Dockage Charges.	Other Charges.	Total.
		1915.	1915.	$ cts.	$ cts.	$ cts.
Dredge *Fruhling*		Wintering.		200 00		200 00
Tug *Laval*		Apr. 16..	Apr, 19..	100 00	50 00	150 00
Tug *Margaret*	192	" 20	" 24..	150 00	50 00	200 00
S.S. *Dundee*		Entry fee.		200 00		200 00
S.S *Scottish Hero*	2,202	May 28..	June 8..	952 32	28 75	981 07
Sub. Boat *H.S.*	350	June 20..	" 22..	100 00	50 00	150 00
S.S. *Turret Crown*		Entry fee.		200 00		200 00
S.S. *Matoa*		"	"	200 00		200 00
S.S. *Ramos*	845	June 22..	June 26..	200 00	101 00	301 00
S.S. *Romnez*		Entry fee.		200 00		200 00
D.G.S. *Lady Grey*	733	May 6.	May 21..	750 00		750 00
S.S. *Lady Alice*		Wintering		400 00		400 00
S.S. *Dundee*	2,278	Apr. 26..	May 6 .	1,060 04	21 75	1,081 79
S.S. *Winona*	2,085	May 6..	" 21.	1,408 70	22 50	1,431 20
S.S. *Tagona*	2,004	" 23..	" 26..	580 16	5 75	585 91
S.S. *Scottish Hero*		Entry fee.		200 00		200 00
New Lauzon Dry Dock		Materials.		19 75		19 75
Dredge *Galveston*		Wintering		800 00		800 00
Dredge *Progress*		"		400 00	4 12	404 12
Tug *Storm King*		"		400 00		400 00
Dredge *Ottawa*					9 62	9 62
S.S. *George D. Brownell*		Entry fee		200 00		200 00
S.S. *Owego*		" "		200 00		200 00
S.S. *Binghampton*		" "		200 00		200 00
S.S. *Montcalm*	1,432	May 22..	June 19 .	1,509 92		1,509 92
Davie Shipbuilding Co.					11 10	11 10
S.S. *Romnez*	4,501	June 27..	Aug. 1..	4,120 56	59 05	4,179 61
S.S. *Owego*	2,612	Aug. 5 .	" 14..	1,017 92	10 25	1,028 17
S.S. *Chemung*	2,615	Aug. 16..	Aug. 19..	506 90	10 40	517 30
S.S. *Bengor Head*		Entry fee.		200 00		200 00
S.S. *Hendon Hall*		" "		200 00		200 00
S.S. *Bengor Head*	2,490	Aug. 10 .	Sept. 1..	1,198 00	18 00	1,216 00
S.S. *Hendon Hall*	3,994	Sept. 2..	" 4..	199 40	50 00	249 40
S.S. *Binghampton*	2,143	" 4..	" 10..	571 44	4 15	575 59
Dredge *Fruhling*		Entry fee.		200 00		200 00
S.S. *Hendon Hall*		"	"	200 00		200 00
C.G.S. *Bellechasse*	416	July 5..	July 6..	300 00	50 00	350 00
S.S. *Hendon Hall*	3,994	Sept. 10..	Nov. 3 .	5,914 72	61 30	5,976 02
S.S. *Harmatris*	6,382	Nov. 12..	" 19..	1,288 20	30 50	1,318 70
S.S. *Carnaross*	4,016	" 19..	" 22..	530 32	3 10	533 42
S.S. *Winona*	2,685	" 22..	" 30..	950 20	29 90	980 10
S.S. *Lady of Gaspé*	1,189	Entry fee.		200 00		200 00
S.S. *Gaspesian*		Wintering	1915-16.	200 00		200 00
H.M.C.S. *Canada*	411	Aug. 2..	Aug. 5..	200 00		200 00
S.S. *Turret Crown*		Entry fee.		200 00		200 00
S.S. *Lady of Gaspé*	1,189	Nov. 30 .	Dec. 10..	578 01	4 80	582 84
S.S. *Cascaredia*		Winter 1915	-16Entry fee.	200 00		200 00
S.S.G.R. *Crowe*		Entry	fee.	200 00		200 00
				29,806 59	689 01	30,495 63

EDW. T. SMITH,
Collector of Public Works Revenue.

Department of Public Works.
Ottawa Aug. 16, 1916.

No. 10.—The Repair Slip at Selkirk, Man.—Statement of Dues and other charges collected during the year ending March 31, 1916.

Name of Vessel Docked.	Tonnage.	Period of Dockage. From	Period of Dockage. To	Dockage Charges.	Total.
		1915.	1915.	$ cts.	$ cts.
Str. *J. M. Smith*	179	May 31	June 1	35 80	35 80
Barge *Lynx*	120	June 12	" 15	40 00	40 00
Tug *Amisk*	32	" 19	" 24	60 00	60 00
Str. *Lockport*	150	July 2	July 3	30 00	30 00
Str. *Garry*	120			30 00	30 00
Str. *Rocket*	56			25 00	25 00
Str. *Cygnet*	18			25 00	25 00
Lady of the Lake	201			82 40	82 40
Str. *Wolverine*	278			55 60	55 60
Str. *Tempest*	75			100 00	100 00
Str. *Chieftain*	61			25 00	25 00
Str. *J. R. Spiers*	31			25 00	25 00
Assiniboine dredge	132			63 36	63 36
Red River dredge	132			54 12	54 12
Two mud scows	220			74 80	74 80
Two mud scows	160			54 40	54 40
Two mud scows	160			32 00	32 00
Str. *Wolverine*	278	August 10	August 11	55 60	55 60
Str. *C. G. S. Bradbury*	500			50 00	50 00
Thillis Williams	164	August 21	August 23	32 80	32 80
Barge No. 3	458	" 15	" 18	123 66	123 66
Str. *Rocket*	56	" 27	" 31	50 00	50 00
Str. *Grand Rapids*	438	" 21	" 27	210 24	210 24
Dredge *Winnipeg*	245	November 1	November 3	66 15	66 15
Str. *Wolverine*	278	" 4	" 6	55 60	55 60
				1,456 53	1,456 53

EDW. T. SMITH,
Collector of Public Works Revenue.

Department of Public Works,
Ottawa, August 16, 1916.

No. 13—Hydraulic and other Rents, etc.,

Description of Property.	Number.	Date to which the account is made up.	Balances transferred to Public Works Department by O.C. of April 27, 1909.	Totals.
			$ cts.	$ cts.
Hamilton and Port Dover and Caledonia Bridge	1		12,092 83	12,092 83
Lot No. 1, Wolfe street	2		433 34	433 34
" 9, "	3		333 34	333 34
" 49, "	4		300 00	300 00
" 73, and 74, Tower street	5		147 80	147 80
" 64, Wolfe street, and 211 and 252 Ware street	6		248 40	248 40
" 67 and 68, Monument street	7		154 80	154 80
" 22 and 23, Wolfe street	8		600 00	600 00
" 32, Wolfe street	9		333 33	333 33
" 65 and 66, Wolfe street	10		533 33	533 33
" 31, Wolfe street	11		333 33	333 33
" 135, Church street	12		63 00	63 00
			15,573 50	15,573 50
	1	June 30, 1874	6,298 25	6,298 25
Lot No. 1, Wolfe street	2	May 1, 1889	558 00	558 00
" 9, "	3	" 1, 1889	120 00	120 00
" 49, "	4	" 1, 1889	306 00	306 00
" 73 and 74 Towser street	5	" 1, 1889	155 22	155 22
" 64, Wolfe street, and 211 and 252 Ware street	6	" 1, 1889	275 82	275 82
" 67 and 68, Monument street	7	" 1, 1889	208 95	208 95
" 22 and 23, Wolfe street	8	" 1, 1889	828 00	828 00
" 32, Wolfe street	9	Nov. 1, 1863	190 00	190 00
" 65 and 66, Wolfe street	10	" 1, 1863	298 68	298 68
" 31, Wolfe street	11	" 1, 1863	35 91	35 91
" 135, Church street	12	" 1, 1863	100 00	100 00
Monument Hotel	13	" 1, 1863	100 00	100 00
			9,474 83	9,474 83

Department of Public Works,
Ottawa, Aug, 16, 1916.

SESSIONAL PAPER No. 19

Lessees' Accounts, 1915-16.

Balances due on April, 1908.	Totals.	Number.	Location.	Name of Proprietors.
$ cts.	$ cts.			*Land sales—Principal Account.*
12,092 83	12,092 83	1	Hamilton and Port Dover road..	Choat and Kern.
433 34	433 34	2	Bonner's property, Quebec.....	Timothy Sullivan, now M. Murphy.
333 34	333 34	3	.....	John Bailey, now Alex. Powell.
300 00	300 00	4	.....	Abraham Thompson.
147 80	147 80	5	.....	John Boomer.
248 40	248 40	6	.....	John Garbatz, now J. C. Nolan.
154 80	154 80	7	.....	N. H. Bowen.
600 00	600 00	8	.....	Estate Robert Reid.
333 33	333 33	9	.....	John Chevalier.
533 33	533 33	10	.....	Daniel Holden.
333 33	333 33	11	.....	George Creeley.
63 00	63 00	12	.....	Thomas McAdam.
15,573 50	15,573 50			
				Land sales—Interest Account.
6,298 25	6,298 25	1	Hamilton and Port Dover road..	Choat and Kern (matured).
558 00	558 00	2	Bonner's property, Quebec.....	Timothy Sullivan, now M. Murphy.
120 00	120 00	3	.....	John Bailey, now Alex. Powell.
306 00	306 00	4	.....	Abraham Thompson.
155 22	155 22	5	.....	John Boomer.
275 82	275 82	6	.....	John Garbatz, now J. C. Nolan.
208 95	208 95	7	.....	N. H. Bowen.
828 00	828 00	8	.....	Estate Robert Reid.
190 00	190 00	9	.....	John Chevalier.
298 68	298 68	10	.....	Daniel Holden.
35 91	35 91	11	.....	George Creeley.
100 00	100 00	12	.....	Thomas McAdam.
100 00	100 00	13	.....	Joseph Brook, tenant.
9,474 83	9,474 83			

EDW. T. SMITH,
Collector of Public Works Revenue.

No. 12.—Hydraulic and other Rents, etc.,

Balance due April 1, 1915.	Rents accrued up to March 31, 1916.	Total.	Location.	Occupant.
$ cts.	$ cts.	$ cts.		
	200 00	200 00	Ottawa River	The Royal Trust Co.
	100 00	100 00	"	"
	300 00	300 00	"	"
	100 00	100 00	"	"
	100 00	100 00	"	"
	300 00	300 00	"	"
	400 00	400 00	"	"
	300 00	300 00	"	"
	100 00	100 00	"	Ottawa Electric Railway Co
	600 00	600 00	"	Ottawa Power Co.
	200 00	200 00	"	Royal Trust Co.
	208 00	208 00	"	J. R. Booth
	10 00	10 00	"	Royal Trust Co
	100 00	100 00	"	"
	96 00	96 00	"	"
136 00		136 00	"	Mary Conroy
570 84		570 84	"	Royal Trust Co
	25 00	25 00	"	"
200 00		200 00	"	Merchants Bank of Canada
96 00		96 00	"	" "
	1 00	1 00	"	Ottawa Electric Co
380 00		380 00	"	John Rankin
	10 00	10 00	"	Ottawa Electric Co
	50 00	50 00	"	Royal Trust Co
1 00	1 00	2 00	"	Alfred Desjardins
	100 00	100 00	"	Royal Trust Co
	10 00	10 00	"	Ottawa Electric Co
	1 00	1 00	St. Lawrence	Quebec Harbour Commissioners
275 00		275 00	"	Richelieu and Ontario Navigation Co
1 00	1 00	2 00	Quebec	Corporation of Quebec
1 00	1 00	2 00	"	Narcisse Blais
	1 00	1 00	Rondau Harbour	School Trustees
1 00		1 00	Collingwood	Great Northern Transit Co.
11 00	1 00	12 00	Ottawa	E. G. Laverdure
1 00	1 00	2 00	Three Rivers	Corporation of Three Rivers
	100 00	100 00	"	Union Bag and Paper Co
165 00		165 00	British Columbia	A Peel
90 00		90 00	"	Johnathan Maury
	12 50	12 50	"	Lemon Gonnason Co
	12 50	12 50	"	John Taylor
	25 00	25 00	"	Joseph Spratt
	5 00	5 00	"	Geo. Huff
70 00		70 00	River du Lièvre	Dominion Phosphate Co.
1 00		1 00	Charlottetown	Rt. Rev. Bishop McIntyre.
	16 00	16 00	Antigonish, N.S	Burnham Morrill Co
2 00	1 00	3 00	Owen Sound	Grand Trunk Railway
240 00		240 00	Windsor	Archie McNee
20 00		20 00	Bayfield. N.S.	Chas. L. Gass
2 00	1 00	3 00	"	"
5 00		5 00	Village of Brook	Wm. Pedwell
	1 00	1 00	Walkerton	D. Robertson and J. Rowland
	1 00	1 00	Lévis, P.Q.	Cyrille Robitaille
2,268 84	3,492 00	5,760 84		

Chas. L. Gass. Lease cancelled Oct. 31, 1913, $5.00 overcharge in last year's return.

Department of Public Works,
Ottawa, August 16, 1916.

Lessees' Accounts for the year ending March 31, 1916.

Description of Proprety.	Date to which account is made up.	Paid during the year.	Balance due on March 31, 1916.	Total.
		$ cts.	$ cts.	$ cts.
Lot B & C Chaudière street, service grounnd	Dec. 31, 1915.	200 00		200 00
Lot D	" 31, 1915.	100 00		100 00
Lot H, I, J, grist mill, North Head street	" 31, 1915.	300 00		300 00
Lot K, Fanning mill, South Head street	" 31, 1915	100 00		100 00
Lot L, service grounnd	" 31, 1915.	100 00		100 00
Lot Q, R, T, service ground, North Middle street	" 31, 1915.	300 00		300 00
Lots M, N, O, P	" 31, 1915	400 00		400 00
Lots E, F, G, South Head street	" 31, 1915.	300 00		300 00
Lot S, service grounnd	" 31, 1915.	100 00		100 00
Lots U, V, W, X, Y, Z, service ground	" 31, 1915.	600 00		600 00
Two strips of land	" 31, 1916.	200 00		200 00
Part of Government reserve, head of slide	Sept. 20, 1916.	208 00		208 00
Bridge over slide	June 30, 1916.	10 00		10 00
Strip of Land, Amelia island	Dec. 31, 1916.	100 00		100 00
Reserve head of Chaudière island	Jan. 1, 1917.	96 00		96 00
Small island in Deschênes rapids	Jan. 1, 1912.		136 00	136 00
Portion of lot 39, Concession A. Nepean	Jan. 31, 1884		570 84	570 84
Excavated channel, slide and two dams	Mar. 1, 1917.	25 00		25 00
Water lot opposite lot 30, Con. A, Nepean			200 00	200 00
3 small islands, Ottawa river			96 00	96 00
Covering over portion of Ottawa slide	Nov. 10, 1916.	1 00		1 00
East portion Hawley island	Jnne 20, 1891.		380 00	380 00
Piece of land, Victoria island	Mar. 11, 1917.	10 00		10 00
Land south side, Middle street, Victoria island	Aug. 31, 1916.	50 00		50 00
Land Longue Pointe Rouge, Templeton Co	Oct. 4, 1916.		2 00	2 00
South west of lot No. 1, Amelia island	Oct. 9, 1815.	100 00		100 00
Lot Pa, South Head street	Jan. 10, 1917.	10 00		10 00
Lot near Custom House, Quebec	Aug. 31, 1916.	1 00		1 00
Roadway from Coteau Landing, pier	Jnly 1, 1909.		275 00	275 00
Old prov. Gov. building and grounds	June 25, 1916.	2 00		2 00
Privilege to erect bridge on St. Charles river	Feb. 6, 1917.		2 00	2 00
Log building, former Custom House, Shrewsbury	Sept. 11, 1915.	1 00		1 00
Use of breakwater. (Lease cancelled Oct. 30, 1915)	Jan. 1. 1916.	1 00		1 00
S. E. ½ lot 8	Dec. 8, 1916.		12 00	12 00
Land Ile St. Christophe, river St. Manrice	Dec. 1, 1916.	1 00	1 00	2 00
Land Ile St. Christophe, river St. Maurice	July 1, 1916.	100 00		100 00
Portion of Assay Office, New Westminster			165 00	165 00
Portion of Assay Office, New Westminster			90 00	90 00
Permit for bulkhead in Victoria Harbour	June 1, 1916.	12 50		12 50
Permit for bulkhead in Victoria Harbour	June 1, 1916.	12 50		12 50
Privilege to build wharf on lots A and C	June 1, 1916.		25 00	25 00
Permit to build wharf lot "A", Block 2	June 13, 1916.		5 00	5 00
Permit for landing at Little Rapids			70 00	70 00
Leave to drain to main service, public building			1 00	1 00
Tract of land and water lot, McNairn's Cove	Dec. 31, 1916.	16 00		16 00
Land west side of Sydenham river	Dec. 31, 1916.		3 00	3 00
Lot on Ouilette street			240 00	240 00
Water lot, (lease cancelled)	Dec. 8, 1916.		20 00	20 00
Water lot, (lease cancelled)	June 9, 1916.		3 00	3 00
Water lot, (lease expires March 31, 1912			5 00	5 00
Right of way over strip of land	Apr. 26, 1916.	1 00		1 00
Ground rent	Apr. 4, 1916.	1 00		1 00
		3,459 00	2,301 84	5,760 84

EDW. T. SMITH,
Collector of Public Works Revenue.

No. 11.—RENTS, etc., from minor public works.

Balance due on April 1, 1915.	Rents accrued up to March 31, 1916.	Total.	Occupant.	Description of Property.	Date to which account is made up	Paid during the year.	Balance due on March 31, 1916.	Total.
$ cts.	$ cts.	$ cts.				$ cts.	$ cts.	$ cts.
2,600 62	....	2,600 62	R. Murdy	Dunnville bridge.....	.....	.....	2,600 62	2,600 62
8,000 00	.....	8,000 00	Corp. of Galt and Dundas.....	Dundas and Waterloo road...	.....	.....	8,000 00	8,000 00
	1 00	1 00	North American Tel. Co	Government telegraph line between Bath and Amherst..	.....	1 00	.....	1 00
25 00	25 00	50 00	Grand Trunk Rly. Co..	Wiarton docks.....	Jan. 14, '16	25 00	25 00	50 00
43 75	....	43 75	....	Part of building, Portland, N.B	.. ....	.....	43 75	43 75
10,669 37	26 00	10,695 37				26 00	10,669 37	10,695 37

EDW. T. SMITH,
Collector of Public Works Revenue.

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, August 16, 1916.

REPORT OF THE CHIEF ACCOUNTANT

FOR THE

FISCAL YEAR ENDED MARCH 31

1916

OTTAWA, November 18, 1916.

R. C. DESROCHERS, Esq.,
Secretary, Department of Public Works,
Ottawa.

SIR,—I beg to submit the report upon the expenditures made by this Department during the fiscal year ended 31st March, 1916.

It will be noticed that the body of the report differs considerably in form from those of preceding years. The information formerly shown in Statements "A" and "B" has this year been amalgamated so as to show in one statement, opposite to the name of each work, the whole outlay by the department upon that work, whether for construction, repairs, rent, salary, etc., for caretaker, heating, lighting, water, or power for machinery.

As regards former Statement "C," showing sums loaned to Harbour Commissions, as there have not been any transactions of this nature under the authority of this department for several years past, and no probabiliy of resumption in the near future, it has been thought best to discontinue the statement.

The total expenditure during the fiscal year was $19,539,298.04, a decrease of $9,744,018.78 from the expenditure of the preceding year.

The volume of work passed through the Accountant's branch during 1915-16 may be briefly indicated as follows:—

——	Number of cheques.	Amount.
		$ cts.
Direct payment by departmental cheque—		
Issued by head office, Ottawa	73,895	6,195,200 74
Issued by agencies at St. John, N.B., Edmonton, Alta., New Westminster, B.C., and Dawson, Yukon	34,288	2,070,185 22
Total departmental cheques	108,183	8,265,385 96
Payments by Receiver General's cheque, after applications issued by this office, upon the Auditor General (contract work, etc.)	1,218	11,273,912 08
Total expenditure		19,539,298 04

I have the honour to be, sir,
Your obedient servant,

A. G. KINGSTON,
Chief Accountant.

STATEMENT OF EXPENDITURE DURING FISCAL YEAR ENDED MARCH 31, 1916

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.

Name of Work.	Construction and Improvements	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water,	Power.	Total.
PUBLIC BUILDINGS.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ css.	$ cts.
Nova Scotia.									
Amherst post office, etc	13 50								13 50
" " " (old)	1,234 98	19 30		406 34	398 28	233 88			2,292 78
Annapolis immigration office	195 00								195 00
" post office, etc		573 28		426 61	265 29	155 50	30 00		1,450 68
Antigonish post office, etc		67 05		468 71	301 84	282 20			1,119 80
Arichat post office, etc		27 24		180 45	274 50	48 86			531 05
Baddeck post office		13 43		432 44	210 00	62 98			718 85
Bear River post office, etc	2'246 45								2,246 45
Bridgewater post office, etc		204 34		501 57	210 68	396 98	32 35		1,345 92
Canning post office, etc	22 60								22 60
Canso post office		617 95		416 57	338 75	287 98			1,661 25
Chester post office	32 75								32 75
Darmouth post office (old)		79 61		455 55	167 57	125 04	53 50		881 27
" " (new)	26,224 81								26,224 81
Digby post office		407 38	4 00	511 91	326 31	504 48	32 00		1,786 08
Glace Bay post office		269 09	7 00	651 80	446 90	503 95	55 00		1,933 74
Guysborough post office		241 53		245 55	298 00	212 00			997 08
Halifax archives office			243 75	19 50		13 00			276 25
" quarantine station		4 32							4 32
" custom house, etc	5,254 56	1,043 85	223 54	4,878 95	1,204 05	516 39	608 15	207 05	13,936 54
" examining warehouse, etc		108 83	1,400 00	1,027 32	268 75	58 84	57 46		2,921 20
" immigration building		1,717 61			388 53	0 90	243 88		2,350 92
" " detention hospital	1,160 00				187 50		311 33		1,658 83
" Denis building, (Militia and Def.)		942 98	8,950 15						9,893 13
" post office, etc		3,044 96		7,273 75	1,158 78	2,011 83	613 90	617 04	14,720 26
" postal station (north end)	185 00								185 00
" pub. works office (clerk of works' residence)			41 25						41 25
Inverness post office		358 37		417 91	297 25	343 01	45 00		1,461 54
Kentville experimental farm	1,018 44				339 03	297 96			1,655 43
" post office, etc		314 40		455 96	242 89	317 25	50 00		1,380 50
Liverpool post office, etc		254 18		410 06	228 28	349 55	18 00		1,260 07
Lunenburg post office	791 42			468 46	281 71	612 63	59 00		2,213 22
Middleton post office	73 25								73 25
Napan experimental farm	5,460 36				38 75	249 63			5,748 74

New Glasgow post office, etc	1,228 48	182 26		470 20	294 88	523 42	100 00		2,799 24
North Sydney immigration building		44 47			87 50	17 06	14 00		163 03
" quarantine station		1,000 00							1,000 00
" post office	741 82	69 28		528 36	545 75	723 34	32 00		2,640 55
" pub. works office (engineer)			700 00						700 00
Parrsboro post office		311 72	22 50	546 36	567 50	313 55	52 00	10 00	1,823 63
Pictou custom house, etc	822 40	294 30		308 25	19 00	57 72	175 00		1,676 67
" post office		592 57		310 25	247 68	882 36	175 00		2,207 86
Shelburne post office, etc		374 91		480 23	247 22	301 52			1,403 88
Shubenacadie post office, etc	1,521 70								1,521 70
Springhill post office, etc		107 25		563 63	361 18	400 88	30 00		1,462 94
Sydney Post building (Marine and Fish)			588 00						588 00
" post office, etc	1,732 95	227 95		745 29	372 50	596 05	58 00		3,732 74
Sydney Mines post office, etc		79 80		476 15	498 00	267 87	30 00		1,351 82
Truro post office		302 79		530 16	10 00	416 90	30 00		1,289 85
Westville post office		109 30		406 41	363 00	227 89	21 00		1,127 60
Weymouth post office			108 33						108 33
Windsor immigration office			393 75						393 75
" post office, etc	1,076 24	72 65		625 74	288 25	533 20	107 45		2,703 53
Wolfville post office	865 61	28 60		483 20	216 00	176 78	34 00		1,804 19
Yarmouth post office, etc		463 29		517 23	321 36	800 49	72 00		2,174 37
Minor offices throughout the province		146 25							146 25
Totals, *Nova Scotia*	51,707 32	14,717 09	12,877 27	26,640 87	12,313 46	13,823 87	3,140 02	834 09	136,053 99
Prince Edward Island.									
Charlottetown experimental farm	1,779 40				246 43	130 20			2,156 03
" custom house, etc		182 84	70 00	604 65	517 86	54 84	34 00		1,464 19
" immigration office			189 54			4 06			193 60
" post office, etc	1,602 77			2,887 83	878 29	1,472 36	225 00		7,066 25
" public works office (clerk of works' residence.)			24 00						24 00
Georgetown post office, etc		87 47		140 00	274 73	45 38			547 58
Montague "		17 73		173 16	301 74	88 98			581 61
Souris "		242 26		426 57	377 05	198 00			1,243 88
Summerside "	4,623 35	63 07		491 61	695 00	448 55	45 00		6,366 58
Tignish "		549 01	6 00	561 12	523 50	83 10			1,722 73
Minor offices throughout the province		8 75							8 75
Totals, *Prince Edward Island*	8,005 52	1,151 13	289 54	5,284 94	3,814 60	2,525 47	804 00		21,375 20
New Brunswick.									
Bathurst post office, etc	921 17	215 10		480 76	386 83	594 14			2,598 00
Campbellton post office, etc	786 16	13 70		506 37	445 25	538 40	52 00		2,341 88
Chatham "	200 00	53 74	45 00	310 51	479 70	333 45	20 00		1,442 40
Clair immigration office			140 00						140 00
Dalhousie post office, etc		377 02		408 26	279 25	105 29	26 00		1,195 82

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDINGS.	$ cts	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
New Brunswick—Con.									
Edmundston immigration office			130 00						130 00
Fairville post office		155 58	50 00	477 18	318 23	189 35	18 00		1,208 34
Fredericton experimental farm	4,306 48				347 46	16 28			4,670 22
" Dist. Engineer's office		32 31	109 42			2 00	30 00		173 73
" post office, etc., (old) (custom house)		103 30		526 62	477 75	378 87	81 00		1,567 54
" post office (new)	10,087 80	156 97	19 00	560 59	865 35	756 82	14 54		12,461 07
" immigration building		31 00				12 64			43 64
Grand Falls post office		31 50	66 66	508 37	431 27	137 52	32 00		1,207 32
Hartland post office, etc		56 80		510 42	321 19	121 85	30 00		1,040 26
Hillsborough post office, etc		282 57		426 41	143 71	68 49			921 18
Marysville post office		64 90		163 55	259 13	44 30	26 00		557 88
Milltown post office, etc	15,351 25	12 02		422 41	499 90		9 00		16,294 58
Moncton post office	1,871 75	631 00		505 85	801 18	653 98	134 00		4,597 76
Newcastle post office, etc		285 14		574 42	448 65	620 40	35 00		1,963 61
Ossekeag (Hampton) post office	3,481 53	49 80	25 00	427 21	281 38	86 25			4,351 17
Richibucto post office		247 34		435 41	316 91	39 15			1,038 81
St. George post office	3 38								3 38
St. John Bank of Commerce building. (Marine agency.)		111 60	1,400 00			16 62			1,528 22
St. John quarantine station, (Partridge island)		299 00		720 00			1,104 66		2,123 66
St. John custom house, etc	4,634 59	1,724 50	337 50	3,959 99	2,190 00	939 90	1,586 64	288 33	15,661 45
" drill hall	385 75	802 91							1,188 66
" savings bank		144 23		6 13	371 44	201 70	13 97		737 47
" immigration building	710 00	749 39	2,105 32	1,464 00	3,761 49	1,401 49			10,191 69
" " detention hospital				670 00					670 00
" post office, etc., (old)		510 92	10 00	3,213 98	1,083 76	2,859 69	1,342 19	3 80	9,024 34
" " (new)	81,003 92	296 25		836 42	2,058 15	95 63		7 19	84,297 56
" West post office		101 33		464 96	150 37	281 68	10 50		1,008 84
" Naval transport office			100 00						100 00
" District Engineer's office			231 39			83			232 22
St. Stephen immigration office			169 57			2 70	9 59		181 86
" post office, etc		172 20		579 08	278 85	332 52	64 36		1,427 01
" Bridge post office, etc						18 60			18 60

Sussex post office, etc		700 65		422 46	418 00	185 23	51 50		1,777 84
Tracadie lazaretto	3,441 12	144 05		820 00	2,394 18	65 88			6,865 23
Woodstock post office, etc		54 66		550 70	369 86	399 41	34 00		1,408 63
Minor offices throughout the Province		2 50							2 50
Totals, *New Brunswick*	127,184 90	8,613 98	4,938 86	20,952 06	20,179 24	11,501 06	4,724 95	299 32	198,394 37
Quebec.									
Acton Vale post office		15 95		507 27	181 89	266 89	24 00		996 00
Arthabaska post office	2,026 92	88 79		529 64	338 63	421 71	100 00		3,505 69
Asbestos post office			276 03						276 03
Aylmer post office		312 16		135 46	224 25	226 15	45 75		943 77
Beauharnois post office			281 25						281 25
Beebe Junction (Immigration building)		30 42		87 05					117 47
Berthierville post office		95 72			163 50	81 57	36 25		377 04
Black Lake post office			150 82						150 82
Buckingham post office		113 20		210 47	251 28	131 40	37 20		743 55
Cacouna post office			62 50						62 50
Cap Rouge Experimental Farm	4,978 11				794 95				5,773 06
Chicoutimi post office, etc		895 41	330 00	689 78	389 74	552 50	375 00		3,232 43
Coaticook armoury	16,654 65								16,654 65
Coaticook post office, etc		487 39		548 64	319 52	298 97	62 50		1,717 02
Compton post office	790 34	26 00	146 05						962 39
Cookshire post office	623 25	25 10		416 04	237 84	155 92	20 00		1,478 15
Drummondville post office, etc	1,260 07	72 32		544 11	265 25	160 94			2,302 69
Dundee custom house					103 00	63 00			166 00
East Angus post office	22,679 18			125 46	611 66	29 90	15 00		23,461 20
Farnham post office		567 57		321 05	121 50	82 90			1,093 02
Fraserville post office, etc		126 13		427 96	273 55	190 42	250 00		1,268 06
Granby post office		310 84		321 40	283 60	177 94	150 00		1,243 78
Grand Mère public building	1,626 55								1,626 55
Grosse Isle quarantine station, improvements	14,078 93								14,078 93
Grosse Isle quarantine station, new buildings	29,632 36								29,632 36
Hull post office		28 44		153 00	371 53	112 19	310 03		976 19
Iberville post office		97 01		482 05	73 80	40 68	38 00		731 54
Jeune Lorette (Loretteville) post office	90 19								90 19
Joliette custom house (temporary)	21 35		600 00			29 54	14 00		664 89
Joliette excise (temporary)	5 00		360 00			10 76	5 50		381 26
Joliette weights and measures office (temp.)			308 00						308 00
Joliette post office (temporary)		73 72	1,265 00	44 43	103 25	99 10	42 00		1,627 50
Joliette post office inspector's office			286 00			0 52	4 50		291 02
Joliette post office, etc	20,121 62			559 92	242 45	9 05			20,933 04
Jonquières post office	9,711 33			99 99	231 80				10,043 12
Knowlton post office, etc		14 16		165 59	336 05	155 95	21 00		692 75
Lachine post office	2,445 00	690 30		117 66	210 22	246 46	49 87		3,759 51
Lachute post office		82 30		419 36	194 13	447 96	37 50		1,181 25
Lacolle immigration office		115 20	88 00		24 94	11 00			239 14
Laprairie post office		9 46		157 34	171 58	72 87	45 00		456 25
L'Assomption post office		102 56		335 10	192 75	103 21	65 00		798 62

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of work.	Construction and Improvements.	Repairs and Furniture.	Rents.	Salaries of and supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDINGS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec Con.									
Lennoxville Experimental Farm	739 98				184 78	26 94			951 70
Levis armoury and gun shed	1,153 35								1,153 35
Levis post office, etc	999 71	3 50		528 24	547 05	300 16	250 00		2,628 66
Longueuil post office		195 83		461 10	289 51	103 38	61 42		1,111 24
Louiseville post office	3,572 16	13 75		463 42	298 50	259 73	20 00		4,627 56
Magog post office, etc	314 21	17 00		426 61	304 75	199 92	78 56		1,341 05
Marieville post office		51 25		388 04	198 67	142 35	28 00		808 31
Matane post office	6,509 96	31 73		441 63	544 10	22 35	33 00		7,582 77
Megantic post office		336 49		537 68	218 25	479 59	42 00		1,614 01
Montmagny post office, etc	185 04	6 37	115 92	437 02	217 63	169 40	50 00		1,181 38
Montmagny public works storage			70 83						70 83
Mont-Joli post office			50 11						50 11
Montreal archives office (Quebec bank bldg.)			416 65			0 70	46 56		463 91
Montreal archives office (Duluth building)		6 25	990 00			4 10			1,000 35
Montreal Bonaventure Station, mail room		24 58							24 58
" custom house, etc	7,181 03	169 99		5,633 68	1,348 20	1,058 92	440 00		15,831 82
" " (canal office)					30 51	40 90	12 00		83 41
" customs express (Read building)		38 00	29,166 66			843 85	440 00		30,488 51
" examining warehouse (old)		3,494 65	35 00	14,703 42	1,497 21	2,281 11	1,092 34	641 29	23,745 02
" " (new)	364,242 88	118 34		335 67	2,896 72	145 75			367,739 36
" Inland Revenue building	438 42	74 30		989 71	524 71	184 62	100 00		2,311 76
" immigration building	1,169 09	1,214 58		39 00	3,233 26	411 15	1,405 99	177 58	7,650 65
" forest products laboratory		257 15		1 75	293 92	391 71	100 00	257 50	1,302 03
" ordnance stores		9 45	3,934 00						3,943 45
" post office, etc	40,101 23	11,021 50	359 49	62,450 46	6,170 30	14,981 34	3,267 52	5,135 71	143,490 55
" " annex (old Herald B.)	1,908 28		2,814 42	185 58	372 30	152 70	100 00	92 98	5,656 26
" " " workshop)	430 85								430 85
" postal station "A," etc	12,303 51	214 01	78 50	1,510 05	595 15	430 12	181 00	77 99	15,396 33
" " "B"		1,758 92	250 00	2,197 77	441 25	709 72	400 00		5,757 66
" " "C"	2,404 50	198 21		1,538 71	637 63	867 67	457 37		6,104 09
" " "D"		578 20		869 40	513 14	234 57	100 00		2,295 31
" " "E"		135 97	75 00	757 28	390 37	452 54	397 92		2,209 08
" " "F"	5,089 54	101 97	600 00	1,318 03	646 71	201 57	120 00		8,077 82
" " "G"	1,222 35								1,222 35

" " "H," etc	7,814 78	754 13	102 93	6,388 45	2,433 49	672 95	1,363 31	2,280 60	21,810 64
" " "L"	4,827 48	254 08		1,271 87	351 61	149 50	160 69		7,015 23
" " "M"		139 91	365 00	408 71	120 09	148 45	15 00		1,197 16
" " "N"		51 00	2,250 00	60 85	132 47	279 01	32 00		2,805 33
" " "O"	2,749 29	29 15		555 82	337 18	159 61			3,831 05
" " "S"		306 64		76 05	236 51	164 12	36 00		819 32
" postal Hochelaga		562 73		215 07	200 23	188 08	96 00		1,262 11
" " Ste. Cunnégonde		1 25	2,187 50						2,188 75
" " St. Henri	318 35	225 91		440 10	224 99	179 25	49 39		1,437 99
" Windsor station mail room		5 00	213 00						218 00
" Prud'homme block (Dept. Pub. Works, etc)		2 45	2,228 33		12 20				2,242 98
" Shaughnessey Bldg. (Marine, etc.)	209 44	55 62	13,956 73	0 92		87 90	16 00		14,326 61
" Supervising Engineer's office (D. P. W.)			909 46			8 30	21 34		939 10
" Generally				2,555 81					2,555 81
Murray Bay post office, etc	15,981 33			519 96	191 92	186 84	70 80		16,950 85
Nicolet post office, etc		102 35							102 35
Nominingue immigration building		10 05	1 00	300 00	357 00	12 00			680 05
Peribonka immigration building				16 66	40 37				57 03
Pierreville post office		257 87		167 03	122 00	21 93	15 00		583 83
Plessisville post office		347 33		167 75	261 00	264 34	83 85		1,124 27
Québec archive office			450 00	360 00	22 25	8 17			840 42
" seeds office			325 00						325 00
" citadel (Gov. General's quarters)	2,643 51	64 00		549 00	732 19	179 56			4,168 26
" cullers' office				180 00					180 00
" custom house, etc	10,531 53	721 99	93 00	3,670 92	1,775 35	1,111 25	800 00	700 00	19,404 04
" drill hall (extension)	31,925 06								31,925 06
" examining warehouse	10,456 44	355 20		2,514 77	1,436 96	562 03	900 00	688 54	16,913 94
" weights and measures office		46 00			77 28	10 11			133 39
" immigration office (101 St. Jean)			525 00						525 00
" immigration buildings (Louise embankment)	20,114 78	69 27			950 07	1,701 02	401 81	1,028 54	24,265 49
" immigration detention building (Savard Park)	4,566 00	98 43			1,325 84	184 08	790 63		6,964 98
" immigration detention hospital (medical superintendent's residence)			650 00						650 00
" marine school (116 Mountain Hill)			379 17						379 17
" marine agency (King's wharf)					445 97		750 00		1,195 97
" pilotage quarters (R. and O. building)		148 50	980 00						1,128 50
" observatory	402 98					66 33	100 00		569 31
" post office, etc. (enlargement)	169,786 58	1,001 36	201 50	7,501 42	1,618 84	1,434 96	750 00	826 93	183,121 59
" postal station 'B'		192 11	3,500 00			89 00		50 00	3,831 11
" Candiac post office			447 92						447 92
" St. Roch post office				870 70	357 63	351 36	800 00		2,379 69
" St. Sauveur post office		496 70		422 81	250 77	118 91	193 75		1,482 94
" post office case, examiner's office			240 00						240 00
" engineer's office, D.P.W. (Merger building)		10 00	2,545 50	6 30		81 80		9 45	2,653 05

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDINGS. *Quebec*—Con.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec, generally				5,927 79					5,927 79
Richmond post office, etc		177 29		520 09	296 23	250 19	25 00		1,268 80
Rigaud post office, etc		133 38		321 15	285 55	224 15	11 00		975 23
Rimouski post office, etc		107 95		362 54	309 70	164 76	37 50		982 45
Roberval immigration building		24 45		16 66	55 00	587 17			683 28
" post office, etc	355 00	166 70		495 41	335 00	210 90	37 50		1,600 51
Rock Island post office, etc		71 05		465 96	327 11	217 46	28 50		1,110 08
Shawinigan Falls post office		652 47		427 86	412 25	104 90	14 56		1,612 04
Shawville post office	16,774 62								16,774 62
Sherbrooke post office, etc		386 81		776 55	562 33	531 28	39 32		2,296 29
" post office inspector's office			1,245 00			16 50			1,261 50
" engineer's office (D.P.W.)			1,700 33						1,700 33
Sorel post office, etc		515 68		599 05	576 22	528 84	256 80		2,476 59
Ste. Agathe des Monts post office	15,830 81			277 31	371 10	4 00			16,483 22
Ste. Anne de Bellevue post office			312 50			25 20	26 13		363 83
Ste. Anne de la Pocatière experimental farm	6,934 87				96 00				7,030 87
St. Eustache post office			350 00			44 38	27 50		421 88
St. Felix de Valois post office			70 84						70 84
St. Gabriel de Brandon post office	5,772 93	34 12	50 01	381 83	311 37	22 06			6,572 32
St. George de Beauce post office			216 67						216 67
St. Hyacinthe inland revenue building	160 00	63 45		411 36	219 36	35 40	100 00		989 57
" post office, etc		480 10		672 99	218 74	285 66	150 00		1,807 49
St. Jean custom house		137 85		349 92	128 00	41 25	60 00		717 02
" immigration office		63 64	5 50						69 14
" post office		117 69		320 82	194 91	182 85	50 00		866 27
St. Jean de Matha post office			31 25						31 25
St. Jerome post office, etc		80 64		411 01	309 91	59 48	58 47		919 51
St. Lambert post office		1,486 96		479 10	266 75	184 37	33 15		2,450 33
St. Ours post office	242 65								242 65
Ste. Rose post office			310 50						310 50
Ste. Therese post office, etc	3,245 89	45 55		450 81	228 22	133 56	22 59		4,126 53
Terrebonne post office, etc		251 42		324 67	201 08	81 70	15 00		873 87
Thetford Mines post office, etc		30 08		180 90	266 81	240 10	30 00		747 89
Trois Rivières post office, new	60,372 48								60,372 48
Trois Rivières post office and inspector's office		183 34	490 00	968 20	196 00	391 70	50 36		2,279 06

Trois Pistoles post office			125 00						125 00
Valleyfield post office, etc		353 44		604 11	536 17	251 90	90 00		1,835 62
Verdun post office	1,089 75	15 05	83 06						1,187 86
Victoriaville post office, etc		282 50	1 00	358 80	206 16	274 90	62 50		1,185 86
Waterville post office, etc	26 43								26 43
Minor offices throughout the province		602 91			27 50	545 00	6 60		1,181 41
Totals, *Quebec*	967,200 41	39,805 20	80,746 93	148,941 88	50,058 96	43,348 88	19,649 14	11,967 11	1,361,710 51

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements	Repairs.	Sundry Maintenance.	Rents.	Salaries and Supplies.	Heating.	Lighting.	Water.	Power.	Total.
Ottawa.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Departmental Buildings.—										
Customs buildings	599,832 89									599,832 89
Eastern block and addition	12,376 59									12,376 59
Langevin block, repairs to copper roof		1,948 97								1,948 97
Langevin block, new elevators	10,093 00									10,093 00
Parliament buildings, improvements	6,345 17									6,345 17
Parliament buildings, removal of debris after fire of 3rd Feb. 1916	45,728 01									45,728 01
Parliament and departmental buildings generally					59,837 98	38,641 72	20,974 52			119,451 22
Fire protection	2,323 25									2,323 25
Grounds, including Major's Hill park			18,619 45		720 00	858 00	423 91			20,621 36
Removal of snow			5,450 81							5,150 91
Power for elevators									15,480 91	15,480 91
Re wiring of buildings	57,325 18									57,325 18
Repairs and furniture		403,134 52								403,134 52
Steel fittings	54,720 70									54,720 70
Telephone service			38,194 48							38,194 48
Sites for new departmental buildings.—										
Acquirement of properties.—										
Sussex street	986 49									986 49
Wellington St., West	78,606 44									78,606 44
Maintenance of properties used as Government offices:—										
Wellington St., West		2,669 96	3,130 99		3,300 00	6,283 79	849 59			16,234 24
Maintenance of properties rented to private tenants:—										
Sussex St		1 72								1 72
Wellington St., East			1,959 92			569 57	48 05			2,577 54
Wellington St., West			23,495 70							23,495 70
Archives building					1,680 00	837 89	339 93			2,857 82

Astronomical observatory						1,089 94	693 49			1,783 43
Biological laboratory						334 66	114 31			448 97
Experimental farm	42,801 61					4,093 13	1,750 11			48,644 85
Fisheries Museum						358 00	135 18			493 18
Fuel testing building						966 14	202 13			1,168 27
Mines building, (Sussex St.)					3,000 00	2,422 35	654 75			6,077 10
National Art Gallery (Pictures)	23,866 50		720 00							24,586 50
Post Office, new elevator	6,260 25				4,920 00	2,342 30	994 87			14,517 42
Printing Bureau, motor generator	11,823 75				720 00	12,063 90	2,313 46			26,921 11
Public Works (Workshop)					820 00	1,472 62	258 96			2,551 58
Rideau Hall:—	32,685 53	9,452 97								42,138 50
Grounds 14,982 47										
Snow 1,746 14										
Fuel and light 17,000 00										
Watchman 720 00			34,448 61							34,448 61
Royal mint					720 00	4,049 90	268 83			5,038 73
Supreme court					1,200 00	1,123 62	359 64			2,683 26
Victoria Island Shipyard							228 39			228 39
Victoria memorial museum	20,816 78				7,860 00	7,605 22	3,240 24			39,522 24
Sundry rented building				483,755 53	16,440 00	6,905 03	16,332 70			523,433 26
Totals, *Ottawa*	1,006,592 14	417,208 14	126,019 99	483,755 53	101,217 98	92,017 69	50,183 06		15,480 91	2,292,475 44

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDINGS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario.									
Acton post office, etc		1,440 64		463 50	321 43	133 84			2,359 41
Alexandria post office, etc		52 65		506 47	262 06	234 65	7 50		1,063 33
Almonte post office, etc	3,969 11	82 31		432 16	433 84	118 06	75 00		5,110 48
Amherstburg post office, etc		229 45		423 86	216 00	177 00	35 00		1,081 31
Arnprior post office, etc		122 99		504 92	288 46	703 45	32 00		1,651 82
Athens post office, etc		20 15		66 55	278 97	152 45			518 12
Aurora post office, etc	15,018 13			213 47	273 00	11 36			15,515 96
Aylmer post office, etc		328 40		645 62	500 34	250 13	19 16		1,743 65
Barrie drill hall	46,943 52								40,943 52
" post office, etc	1,637 46	202 41		445 96	554 54	359 48	50 00		3,249 85
Belleville post office, etc		543 09		792 11	818 29	811 16	83 25		3,047 90
Blenheim post office			200 00						200 00
Bowmanville post office, etc		447 51		582 94	209 31	223 78	17 01		1,480 55
Bracebridge post office, etc	2,964 29	516 02		425 08	330 38	126 81	8 31		4,370 89
Brampton post office, etc	781 65	127 88		475 17	282 32	134 93	20 84		1,822 79
Brantford drill hall (old)	331 80								331 80
" " (new)	859 81	250 00							1,109 81
" post office (new)	19,005 96	134 60		1,463 97	1,002 15	379 55	57 02	259 85	25,303 10
" " (old)		84 57		507 35	296 33	168 29	37 88	22 67	1,117 09
Bridgeburg post office		159 10		388 77	198 00	139 09	20 00		904 96
Brockville post office, etc	1,981 82	213 30		796 94	533 60	919 60	170 00		4,615 26
Brussels post office, etc	42 85								42 85
Burford post office, etc	22,117 71								22,117 71
Burk's Falls post office, etc	82 43								82 43
Carleton Place post office, etc	314 84	1,092 00		529 16	218 50	269 89	29 95		2,454 34
Cayuga post office		153 81		314 52	79 86	83 44	5 50		637 13
Chatham post office, etc		260 77		664 34	288 30	197 94	12 12		1,423 47
Chesley post office, etc		95 89		513 06	234 54	337 42	25 00		1,205 91
Clinton post office, etc		484 48		258 37	339 86	279 81	11 37		1,373 89
Cobalt post office		18 60	2,333 33						2,351 93
Cobourg immigration building		8 45	212 50		1 00	15 50			237 45
" post office, etc		326 22		657 40	296 84	389 33	50 76		1,720 55
" new public building	3 50								3 50
Collingwood post office, etc	15,969 25	6 75		336 14	451 00	55 80			16,818 94
Copper Cliff post office, etc	90 42								90 42

Cornwall post office, etc.	846 50	313 02		619 07	620 30	449 50	75 00	2,923 39
Deseronto post office, etc.		304 04		609 02	337 50	287 23	39 00	1,576 79
Dresden post office		261 90		486 08	225 55	198 19	27 50	1,199 22
Dundas post office		902 47		487 81	257 25	183 55	23 83	1,854 91
Durham post office	38 49							38 49
Eganville post office, etc.	4,531 16	19 25		358 06	279 18	334 06	28 32	5,550 03
Elmira post office, etc.	18,478 03			143 32	239 13			18,860 48
Elora post office		312 95		504 80	202 73	140 39	5 85	1,166 72
Essex post office	9 60	87 82		522 81	299 35	144 09	37 50	1,101 17
Fergus post office		292 93		531 80	237 13	188 13	7 05	1,257 04
Forrest post office, etc	97 43							97 43
Fort Frances	19 28							19 28
Fort William, district engineer's office			1,033 39					1,033 39
" drill hall	3 38							3 38
" examining warehouse, etc.	32,470 19	26 24				66 71	45 85	32,608 99
" immigration building		4 00	104 40			3 46		111 86
" inland revenue			198 00					198 00
" post office		152 35		585 41	1,472 50	344 33	90 00	2,644 59
Galt drill hall	29,810 62							29,810 62
" post office, etc.		695 92		638 50	284 25	170 86	63 62	1,853 15
Gananoque custom house		6 70		2 03	190 91	43 72	9 75	253 11
" post office, etc.		90 30		542 10	296 25	227 35	15 61	1,171 61
Georgetown post office, etc	105 60							105 60
Glencoe post office, etc.		223 33		474 84	233 52	264 58		1,196 27
Goderich post office, etc.		246 72		530 89	451 02	169 28		1,397 91
Gore Bay post office, etc.	1,822 10							1,822 10
Grimsby post office, etc.	52 56	9 42		557 64	129 55	94 67	16 13	859 97
Gravenhurst post office, etc.	88 48							88 48
Guelph post office, etc.		561 30		715 25	528 53	244 05	47 03	2,096 16
Hamilton post office, etc.	2,913 84	909 71	1,500 00	8,238 17	1,116 25	1,646 15	2,213 90	58 48	18,596 50
" postal station 'B'	96 99							96 99
Hanover post office, etc.	14,439 10	17 74		266 20	230 84	85 38		15,039 26
Harriston post office, etc.		536 85		599 48	499 24	289 45	34 00	1,959 02
Hawkesbury post office, etc.		18 92		451 39	183 02	146 73	17 82	817 88
Hespeler "	70 45							70 45
Ingersoll drill hall	14 00							14 00
" post office (addition)	8,279 34	60 52		665 16	557 43	238 00	24 00	9,824 45
" temporary post office			375 00		3 00			378 00
Kemptville post office, etc.	3,687 46	69 52		333 85	244 32	226 21	20 00	4,581 36
Kenora post office, etc.		701 75		536 50	605 88	467 21	70 76	2,382 10
Kincardine post office		155 45		298 59	345 42	327 70	20 00	1,147 16
Kingston custom house	763 26	721 92		789 57	567 56	131 16	59 15	3,032 56
" immigration office		86 88	150 00			2 20		239 08
" inland rev. office, etc.	763 27	179 78	2,732 07	661 78	349 15	105 53	51 94	4,843 52
" ordnance stores			1,166 67					1,166 67
" post office, etc.	763 27	936 96		852 30	726 80	741 18	59 42	4,079 93
" R.M.C. dormitory accommodation for cadets.	2,454 26							2,454 26
Kingsville post office, etc	32 31							32 21
Kitchener—examining warehouse			751 25	2 50	70 00	5 12	2 26	831 13

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDING.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario—Continued.									
Kitchener, G.T.R. station mail room			50 00						50 00
" post office, etc.	46 75	832 69		518 81	299 03	174 64	6 74		1,878 66
Lakefield post office, etc.	7,869 76	38 03		256 14	308 88	140 95			8,613 76
Landsdowne post office			56 25						56 25
Leamington post office, etc		294 28		508 65	238 00	230 70	21 00		1,292 63
Lindsay post office, etc.	4,362 33	64 76		543 73	334 50	295 59	24 10		5,625 01
Listowell drill hall	7,786 43								7,786 43
" post office, etc		211 25		550 50	500 47	558 40	31 21		1,851 83
London armoury	454 37								454 37
" custom house, etc	1,472 79	993 87		1,385 82	1,279 62	624 77	134 75		5,891 62
" fair grounds, to rebuild grand stand destroyed by fire when occupied by Dept. of Mil. and Def.	15,000 00								15,000 00
London immigration office			140 00			1 50			141 50
" post office, etc. (and addition)	3,510 97	610 01		2,257 32	2,183 18	1,757 03	124 35	6 25	10,449 11
L'Orignal post office			156 25						156 25
Markham post office		50 60		650 00	113 70	63 00	1 00		877 70
Merrickville post office			250 00						250 00
Midland post office, etc.		372 65		758 49	411 15	116 98	21 80		1,684 07
Mildmay post office, etc.		100 65		86 35	34 39				221 39
Milton post office	10,528 43	3 25		281 98	168 83	45			10,982 94
Milverton post office, etc.	14,992 72			45 16	391 86				15,429 74
Mitchell post office		34 10		528 64	233 35	103 80	96 00		995 89
Morrisburg post office	50 95								50 95
Mount Forest post office		271 09		457 45	321 09	183 41	12 00		1,245 04
Napanee drill hall	31,098 07								31,098 07
" post office, etc		581 30		680 62	345 64	414 42	73 41		2,095 39
Newmarket post office, etc	10,294 24	3 00		130 11	232 00	20 06	2 63		10,688 04
Niagara Falls custom house (Bridge No. 2)						2 78			2 78
" immigration building		39 00							39 00
" post office, etc.		581 17		766 13	431 15	187 78	56 36		2,022 59
North Bay post office, etc	1,043 06			883 15	578 97	344 31	45 00		2,894 49
Norwich post office, etc	13,266 00	10 18		230 74	208 00	79 08	10 42		13,804 42
Orangeville post office, etc		58 91		650 00	151 39	108 30	20 00		988 60
Orillia custom house (temporary)			210 00	140 00		9 36	2 67		362 03

" post office, etc	3,770 53	158 92		672 29	463 89	295 72	20 80	8 40	5,390 55
" public building (temporary)					3 25	21 74			24 99
Oshawa post office, etc		330 08		667 34	310 44	283 64	26 92		1,618 42
Owen Sound post office, etc		437 70		642 13	516 51	162 71	54 20		1,813 25
Palmerston " "	19,521 26	1 50							19,522 76
Paris post office		9 60		626 89	270 87	141 29	57 60		1,105 65
Parkhill post office, etc		123 00		220 18	223 48	65 10	4 46		636 22
Pembroke drill hall	23,846 29								23,846 29
" post office, etc	3,836 89	160 96		461 19	469 30	336 28	43 00		5,307 62
Perth post office, etc	3 00								3 00
Peterboro custom house	746 94	90 42		445 19	265 49	73 93	50 00		1,671 97
" new public building. (Custom and Inland Revenue)	362 04								362 04
" post office, etc	622 12	444 83		746 44	223 76	227 95	75 00		2,340 10
Petrolea post office, etc	16 00	80 16		510 85	425 72	271 09	47 76		1,351 58
Picton post office, etc	22 59	64 34		470 45	309 05	127 83	27 00		1,021 26
Port Arthur armoury and drill hall	416 98								416 98
" examining warehouse, etc	131,394 04	69 50			1,715 75				133,179 29
" immigration building		31 35	166 00			11 80	17 08		226 23
" " " office			150 00		94 50	4 25	5 23		253 98
" post office, etc,		126 52		645 49	390 95	280 53	30 39		1,473 88
" Public Works office. (District Engineer's)			550 00			48 96			598 96
Port Colborne post office		69 04		473 09	155 35	148 55	15 00		861 03
Port Hope post office, etc		554 99		519 25	391 50	207 89	25 86		1,699 49
Port Perry post office		474 28		499 24	226 80	197 35	44 44		1,442 11
Prescott custom house		13 91		99 06	229 13	29 16	45 00		416 26
" immigration building		12 95							12 95
" post office		55 63		760 77	497 38	156 96	75 00		1,545 74
Preston post office, etc	19,062 31	66 37		638 97		44 90			19,812 55
Renfrew " "		373 25		529 89	375 60	703 60	27 00		2,009 34
Ridgetown post office			325 00						325 00
Sandwich post office, etc	353 74	97 98		403 68	262 58	67 39	5 89		1,191 26
Sarnia " "		395 06		681 20	315 89	122 40	49 64		1,564 19
Sault Ste. Marie post office, etc	324 49	1,218 99		1,832 27	993 46	550 08	173 37	244 33	5,336 99
Seaforth post office		138 47		621 86	499 69	163 19	14 00		1,437 21
Shelburne post office, etc	41 89	106 97		514 73	420 13	258 90	11 00		1,353 62
Simcoe " "		717 62		551 60	114 83	146 47	20 00		1,550 52
Smith's Falls " "	12,135 19	27 25		457 19	826 81	435 95	66 75		13,949 14
St. Catharines " "	1,761 36	291 94		502 95	722 45	239 00	136 30		3,654 00
St. Mary's " "		147 09		480 00	303 25	185 49	31 47		1,147 30
St. Thomas post office		127 49		526 42	313 86	137 78	21 40		1,126 95
Steelton "	5,478 57	34 35		419 05	740 69	70 75	21 25		6,764 66
Stratford post office, etc		71 09		762 88	452 02	365 74	58 09		1,709 73
Strathroy " "		63 62		528 84	269 00	132 51	23 40		1,017 27
Sturgeon Falls post office			270 83						270 83
Sudbury post office, etc	16,445 18	148 32		599 00	1,023 71	174 13	25 16		18,415 50
Tilbury post office		83 38		537 25	183 15	162 38			966 16
Tilsonburg post office, etc		122 00		532 72	293 40	195 59	56 79		1,200 50

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDINGS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario—Con.									
Toronto, alien registration office, 34 Adelaide street		26 70		2 94	474 60	10 00			514 24
" Agriculture Dept., seeds branch		30 72							30 72
" customs examining warehouse and postal station "A"	79,042 35								79,042 35
" custom house	87 58	1,088 15		6,076 28	1,314 63	443 26	89 87	124 84	9,224 61
" excise office, (Confederation Life buiiding		39 06							39 06
" express customs office, (3 and 5 Front st	345 12	49 40		892 62	698 64	780 24	115 21	68 96	2,950 19
" examining warehouse	108 52	908 07	7 50	9,604 20	2,677 16	374 31	114 59	166 79	13,961 14
" Foy building, (Mar. and Fish. D.)	31 85	37 66	1,633 33	1 90	372 60	11 75			2,089 09
" Gas Inspector's office (Bank of Toronto building)		20 00							20 00
" immigration building		138 48	1,147 50		190 62	68 68	2 61		1,547 89
" " office—old G. T. R. station			1,382 50						1,382 50
" Inland Revenue and Asst. Receiver General's office	163 70	371 41		1,061 77	545 88	165 12	23 73	13 24	2,341 45
" post office, etc. (and additions)	917 73	2 592 29	62 00	19,796 40	5,108 29	4,199 43	436 65	390 11	33,502 90
" " site for enlargement	19,094 42								19,094 42
" " " " Repairs to buildings on this site still occupied by private tenants.		2,868 37							2,868 37
" postal station 'A', old G.T.R. station			4,200 00	2,380 88	13 30	353 73			6,947 91
" postal station 'A' (temporary)	3,105 03	1,426 25						253 27	4,784 55
" " 'B'		3 10	1,010 91	12 31	28 69	173 23	5 86		1,234 10
" " 'C'		70 95		646 02	389 24	244 41	8 82		1,359 44
" " 'D'	380 46	76 31		636 58	414 39	193 88	11 23		1,712 85
" " 'E'	51 70	27 03	1,680 00	23 80	6 44	180 92			1,969 89
" " 'F' &c		159 03	67 00	1,523 26	598 51	194 16	46 17		2,588 13
" " 'G' (old)		442 03	1,600 00	692 75	472 02	98 84	19 10		3,324 71
" " 'G' (new)	40,167 30								40,167 30
" " 'H'		30 39	1,050 00	345 22	2 10	47 63			1,475 34
" " 'K'	1,527 51	24 79		565 11	349 51	33 35	16 20		2,516 47

" post office garage, Richmond street.	1,407 37		382 70	793 70	620 40	218 89	26 21	206 69	3,655 36
" engineers' office (D.P.W.)		392 03	2,837 47			94 44			3,323 94
" generally				7,136 43					7,136 43
Trenton post office, etc		231 33		615 38	587 20	360 02	80 00		1,873 93
Uxbridge post office, etc		24 81		504 63	290 12	205 10			1,024 66
Walkerton post office, etc		55 50		517 14	231 50	227 50	31 00		1,062 64
Walkerville post office, etc	51,166 14	27 50		364 74	538 18	10 74	8 75		52,116 05
Wallaceburg post office, etc					3 20				3 20
Waterloo post office, etc	2,645 46	141 04		483 77	511 63	219 45	20 08		4,021 43
Welland post office, etc		989 48		656 13	361 20	72 75	30 00		2,109 56
Whitby post office, etc		210 88		551 20	219 96	108 99	28 50		1,119 53
Windsor immigration building		32 54							32 54
" post office, etc	1,413 90	1,213 89		1,427 24	579 70	753 83	57 45		5,446 01
" Pub. Works Dept. (Dist. Engineer's office)			1,820 73				3 79		1,824 52
Wingham post office		148 14		337 02	278 88	296 56	45 35		1,105 95
Woodstock post office, etc		154 32		785 73	335 11	179 62	39 20		1,493 98
Minor offices throughout the province	366 63	142 10				14 28			523 01
Totals, *Ontario* (excluding *Ottawa*)	818,726 07	43,193 46	31,962 58	127,738 01	62,770 96	37,639 73	7,166 58	1,882 63	1,131,080 02
Manitoba.									
Boissevain post office, etc	173 00								173 00
Brandon experimental farm	1,620 32				443 10	185 10			2,248 52
" immigration building		9 85			304 56	81 04	22 75		398 20
" post office, etc., (old)		1,076 52		1,140 55	1,154 58	903 02	136 58		4,411 25
" " (new)	1,546 23								1,546 23
Carberry post office	5 00								5 00
Carman "	4,084 52	7 55		541 97	778 18	77 60			5,489 82
Dauphin " etc		50 71		621 97	622 88	393 16	50 39		1,738 14
" Forestry Supt. office			12 00						12 00
Deloraine immigration building			399 99		269 20				669 19
Elmwood site, Gov't share *re* sidewalk	166 97								166 97
Emerson immigration building		8 00			252 50				260 50
" post office, etc		56 40		579 08	513 85	19 99			1,169 32
Gretna "	6 65								6 65
Le Pas post office			600 00						600 00
Melita post office			13 58						13 58
Minnedosa post office, etc		1,227 95		781 81	249 00	432 62			2,691 38
Morden post office, etc	1,515 96	112 38		796 35	479 90	122 41			3,027 00
Neepawa "		506 67		875 35	483 85	93 80	26 51		1,986 18
Oak Lake "	37 17								37 17
Portage la Prairie examining warehouse, Tupper st		3 00	469 28		76 21	10 00	11 08		569 57
Portage la Prairie old post office				692 35	1,033 53	346 01	10 70		2,082 59
" " post office (new)	1,427 19	161 05		555 75	624 63	257 45	112 48		3,141 55
Reston post office			70 01						70 01
Roblin forestry office	32 51		357 50						390 01

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements	Repairs and Furniture.	Rents	Salaries of and Supplies for Caretakers	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDINGS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Manitoba—Con.									
Selkirk post office		65 58		723 15	972 25	55 87	14 67		1,831 52
Shoal Lake post office			195 00	588 72	381 03	143 98	56 82		1,365 55
Souris post office, etc	79 50	88 63							168 13
St. Boniface post office		80 32		790 33	384 08	59 57	35 03		1,349 33
Stonewall post office	2,885 27	16 85		406 10	225 25	29 02			3,562 49
Swan River immigration office			210 00						210 00
Transcona post office		170 00	650 00						820 00
" (North) grain inspection building		357 43							357 43
Virden immigration building			500 00		90 00				590 00
" post office, etc	4,716 67	29 75		713 69	732 67	64 00			6,256 78
Winnipeg, Boyd building (archives, Ry. Commission, etc.)		167 20	3,025 50			25 31			3,217 83
Winnipeg custom house, etc									
" (old post office)	3,968 63	1,544 71		7,893 43	1,782 94	568 39	190 29	106 13	16,054 52
" drill hall, central	181,078 01								181,078 04
" examining warehouse		1,082 96		7,214 80	4,810 38	176 43	651 55	148 89	14,085 01
" grain warehouse					43 50	15 20			58 70
" immigration buildings	188 90	2,118 82	46 88	1,693 06	6,495 68	573 96	641 98	104 24	11,863 42
" Chamber of Commerce building, (Interior Dept., etc		346 42	5,600 00			62 09			6,008 51
" North, drill hall	69,954 40								69,954 40
" post office, etc	7,280 09	664 79	141 75	12,420 00	10,903 86	3,354 47	1,250 08	313 34	36,328 38
" postal station 'A'	368 00	35 05	2,992 66						3,395 71
" " 'B'	2,312 00	2,002 80		1,367 70	1,222 42	304 13	79 70	9 51	7,298 26
" " 'C'		16 04	1,625 00	370 05		114 92			2,126 01
" " 'D'	199 72	23 31	1,800 00	305 50	181 98	42 15	20 59		2,573 15
" Union station mail room		42 00	2,617 33						2,659 33
" engineer's office (D.P.W.)		20 00	1,734 85	19 25	32 53	13 00			1,819 63
" Generally				5,345 00		390 00			5,735 00
Minor offices throughout the province		265 78							265 78
Totals, *Manitoba*	283,646 74	12,361 42	23,061 33	46,434 99	35,544 54	8,894 51	3,311 10	682 11	413,936 74

Saskatchewan.									
Battleford immigration building						16 67			16 67
" post office, etc	1,332 42	293 80		647 45	741 61	386 62	34 10		3,436 00
Big River forestry office			89 35						89 35
Biggar immigration building					149 40				149 40
Estevan post office, etc		456 91		603 70	261 16	168 34	24 90		1,515 01
Gravelbourg immigration building			3 00		396 05				399 05
" post office, etc		154 75		150 90	230 55	40 35			576 55
Humboldt post office, etc		998 40		777 55	1,442 23	287 69	12 18		3,518 05
Indian Head experimental farm	5,293 26				760 00	254 11	220 19		6,527 56
" forest nursery station	378 28	117 10			360 02		24 01		879 41
" forestry office	300 98		453 06		772 21	21 61	74 59		1,622 45
Kerrobert immigration building			1 00		189 25				190 25
Lloydminster immigration building					171 00	30 40			201 40
" post office, etc		66 55		694 14	405 50	484 32			1,650 51
Maple Creek forestry office			195 00						195 00
" lands office, etc		143 85	1,400 00		226 21	19 15	36 00		1,825 21
" post office, etc		370 70		231 52	581 58	218 85	32 80		1,435 45
Melfort post office, etc	170 00	339 40		845 74	658 94	318 16	75 00		2,407 24
Moosejaw custom examining warehouse	18 17								18 17
" immigration building		55 95	100 00		112 54	50 68	15 10		364 27
" Inland Revenue			150 00						150 00
" post office, etc	200 70	265 64		3,929 20	4,601 57	1,421 21	334 05	490 40	11,242 77
" public building (new)	10,695 30								10,695 30
North Battleford immigration building			51 00			16 01	12 75		79 76
" immigration and lands office			700 00		218 70	26 02	35 30		980 02
" post office, etc		424 85		757 90	1,112 28	354 09	210 01		2,859 13
North Portal immigration building		76 30	2 00		118 10				196 40
Prince Albert drill hall	60,083 60								60,083 60
" engineer's office (P.P.W)			1,300 00			13 00			1,313 00
" Forestry Branch office (Baker building)		62 51	535 00	7 00	71 30	0 95			676 76
" Forestry Branch office (Masonic building)		55 32	625 00			0 80			681 12
" immigration building					20 00	11 20			31 20
" post office, etc	663 56	3,042 38	375 00	2,196 97	1,668 39	920 17	94 04		8,960 51
Regina custom examining warehouse	651 54	1,309 38		1,116 85	663 24	106 17	45 00		3,892 18
" custom's express office (Forest build'g.		35 00	2,250 00			5 48			2,290 48
" immigration building		31 14			513 50	47 46	24 30		616 40
" Inland Revenue office (Alden block)		280 85	300 00			10 17			591 02
" post office, etc	859 86	1,246 87	600 75	2,991 66	3,327 17	1,470 28	220 69	346 95	11,064 23
Rosthern experimental farm	779 70				432 67	10 00			1,222 37
Ruby Lake forestry office			67 50						67 50
Saskatoon (Canada bldg.) (Inland Rev. etc.)			1,449 55			38 20			1,487 75
" custom house—2nd Ave. & 23rd St.			5,100 00						5,100 00
" custom examining warehouse		1,345 13							1,345 13
" custom's express (Masonic build'g)			1,350 00			3 52			1,353 52
" drill hall	5,509 43								5,509 43

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDINGS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Saskatchewan—Con.									
Saskatoon Examining warehouse (Sumner building)			3,150 00				5 65		3,155 65
" forest nursery station		246 83			495 75				742 58
Saskatoon immigration building		51 36			253 32	35 68	12 14		352 50
" lands office		30 00	3,900 00						3,930 00
" post office, etc., (old)		4 00		1,984 07	1,501 05	899 45	96 20		4,484 77
" " " (new)	938 69								938 69
Scott experimental farm	583 50				344 10	47 70			975 30
Swift Current lands office		368 08	2,018 47			9 00			2,395 55
" post office		381 17	1,805 38		58 83	221 40	42 00		2,508 78
Unity immigration building			6 00		203 33				209 33
Wadena immigration building			3 00		209 52	45 40			257 92
Weyburn post office, etc	122 45	751 85		716 26	727 64	494 90	68 30		8,884 42
Wilkie immigration building		31 51	1 00		141 00				173 51
Yorkton post office, etc		181 73		622 45	809 53	896 42	41 00		2,551 13
Minor offices throughout the Province		437 90							437 90
Totals, *Saskatchewan*	88,581 44	13,660 21	29,269 26	18,273 38	24,979 24	9,401 63	1,790 30	837 35	186,792 81
Alberta.									
Athabaska immigration building			3 00		102 57				105 57
" mail room (Revillon Frères)			42 50						42 50
Bassano post office, etc	15,159 31	46 70		136 99	581 02	76 16	7 48		15,007 66
Calgary Asst. Rec. General's office	145 28								145 28
" Blow building, (Irrigation)	510 90	51 01	6,362 20	29 25		206 62			7,159 98
" Burns building, (Geol. Survey)			480 00						480 00
" Cadogan building, (Inland Rev.)			915 00						915 00
" Canada Life building, (P.O.D. and I.R.)		6 00	9,909 00			60 20			9,975 20
" Costello building, (weights and measures)			390 00						390 00
" customs office, (Dominion Bank building.)		45 81	1,000 00		92 54	4 51	169 72		1,312 58

" customs mail dept., (Sharples building.)			1,375 00			30 80			1,405 80
" drill hall	808 59								808 59
" examining warehouse	37,471 65	186 00	1,200 00	1,174 08	3,079 64	432 98		475 78	44,290 13
" immigration building	385 15	162 70			367 27	32 29	27 87		975 28
" Leeson-Lineham building, (Interior dept.), lands office		34 45	4,540 00	10 25	26 76	77 20			4,688 66
" new post office	140 45								140 45
" old post office		717 57							717 57
" post office—temporary	642 21	511,95	8,437 50	2,680 91	729 83	1,647 25	102 68		14,752 33
" " " site			1,406 25						1,406 25
" Railway Commission, (Bonner building.)			260 00	4 00		1 50			265 50
" Railway Commission, Herald building.)		8 00	1,740 00			8 25			1,756 25
" Recruiting office, (old Merchants building.)		6 00							6 00
Calgary seeds office:— (Armstrong office).	259 94	195 70	1,156 25		13 13	36 69			1,661 71
" Storage, (old post office materials)			495 00						495 00
" (Sullivan bldg.) customs express office		3 00	750 00			9 85			762 85
" (Thomas bldg.) topographical office		619 58	3,725 40			12 26			4,357 24
" generally						96 12			96 12
Castor immigration building					57 42				57 42
Edmonton armoury, (Dragoons)	291 67								291 67
" examining warehouse	1,385 16		2,898 00						4,283 16
" immigration building	315 20	256 73			452 07	207 57	258 37		1,489 94
" lands office, (Alexander block)		16 00	7,700 00	314 60		296 53			8,327 13
" new drill hall	146,627 70								146,627 70
" post office, etc	1,189 76	1,235 66	174 55	7,653 03	1,500 46	2,085 37	170 45	355 02	14,364 30
" weights and measures office			245 00						245 00
South (Strathcona) armoury	5 95								5 95
" " immigration buildings	286 53	1,214 25			153 60	11 30	2 05		1,667 73
" " post office, etc	500 00	386 50		1,113 31	569 72	200 17	38 48		2,808 18
Edson immigration building		3 20			139 70				142 90
Entwistle immigration building		710 00	6 00		104 25				820 25
Grand Prairie immigration building			975 00		238 80				1,213 80
" lands office		137 75	340 00		15 00				492 75
Grouard immigration building		22 00	370 00						392 00
" lands office		92 10	780 00		81 00				953 10
High River post office	92 45								92 45
Lacombe experimental farm	3,058 25				1,044 62	284 82			4,387 69
Lethbridge " "	3,370 84				458 00	132 50	32 20		3,993 54
" immigration building	16 75	69 36			305 90	40 45	100 00		532 46
" lands office and custom house		8 10		270 15	477 50	63 35	100 00		919 10
" new public building	4,164 54			5472 10	1,892 15	284 50	92 86		11,906 15
" post office, etc		232 84						263 35	496 19
Macleod custom house		275 30			207 00	24 90	29 84		537 04
Medicine Hat customs express office			810 00						810 00

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDINGS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Alberta—Con.									
Medicine Hat examining warehouse			180 00						180 00
" gas inspection office			270 00						270 00
" immigration building		38 15	300 00	18 00		39 82			395 97
" post office, etc	21,234 38	90 36		1,864 50	244 54	603 61	38 50		24,075 89
Peace River Crossing lands office	427 15		397 92		125 00				950 07
Pincher creek forestry office			390 00		30 22				420 22
Red Deer post office, etc		134 62		970 20	209 82	33 20	39 00		1,386 84
Rocky Mountain park—Supt's. office		37 00	325 00		57 37				419 37
Vermilion immigration building			1 00		153 58				154 58
Viking immigration building		545 00	6 00		51 00				602 00
Wainwright immigration building		280 50	8 00		128 72				417 22
Wetaskiwin post office		329 81		718 35	383 26	196 63	37 07		1,665 12
Minor offices throughout the province		979 00			270 00				1,249 00
Totals, *Alberta*	238,489 81	9,688 70	60,363 57	22,429 72	14,343 46	7,237 40	1,246 57	1,364 15	355,163 38
British Columbia.									
Agassiz experimental farm	5,835 24				543 50				6,378 74
Ashcroft mail room (Inland express building)			325 00						325 00
Atlin post office, etc		1,097 18	75 00	155 20	137 50	66 00			1,530 88
Burrard Inlet immigration building			1 00						1 00
Chase post office		25 65	15 00		67 00	6 90	9 00		123 55
Chilliwack post office, etc		37 05		622 50	313 06	91 30	36 00		1,099 91
Carcross post office					102 00				102 00
Comox post office, etc	240 00	23 60		258 55	149 83	36 00			707 98
Chemainus immigration building		8 00							8 00
Cranbrook post office, etc		117 98		963 16	289 10	566 16	57 74		1,994 14
Cumberland post office, etc		43 12		664 37	175 63	121 88	60 00		1,065 00
Courtenay post office	15 67								15 67
Duncan post office, etc		161 30		984 05	298 38	203 52	30 00		1,677 25
Fernie post office, etc		34 35		892 50	283 50	161 70	44 55		1,416 60
Grand Forks post office, etc	3,568 58	553 02		703 23	508 90	305 34	60 00		5,699 07
Greenwood post office, etc	3,844 11	153 73		743 80	394 57	259 27	88 00		5,483 48
Invermere experimental farm	1,075 87				125 00				1,200 87

Kamloops (Acadia block) Int. Dept. lands office		194 41	2,409 00						2,603 41
Kamloops forestry office		12 00	1,312 00						1,324 00
" post office		235 95		735 05	551 36	376 25	24 00		1,922 61
Ladysmith post office		26 15		604 50	94 10	69 98	26 00		820 73
Mission City post office	4 00								4 00
Nanaimo post office, etc		272 67		1,534 40	324 00	659 93	36 00		2,827 00
Nelson post office, etc		233 07		641 85	268 10	688 83	72 00		1,903 85
" engineer's office (D. P. W.)		4 70	836 80						841 50
New Hazelton post office	13 68	206 50							220 18
New Westminster Indian and fisheries building		219 80		640 20	130 84	45 80	53 41		1,090 05
New Westminster post office, etc	10,602 11	1,095 09	179 70	2,798 30	720 47	982 05	85 62	300 00	16,763 34
North Vancouver drill hall	5,814 80								5,814 80
" post office		42 50		917 65	191 75	201 57	10 80		1,364 67
Pacific Highway immigration office					54 65	98 43			153 08
Penticton post office	60								60
Port Alberni post office, etc	4,604 52	130 69	250 00	664 05	331 03	190 33	65 00		6,235 62
Powell River post office	12 71								12 71
Prince Rupert drill hall	109 28								109 28
" examining warehouse			2,100 00				9 00		2,109 00
" immigration building		166 68	10 00		281 66				458 34
" post office, etc., (Federal block)	661 18	56 30	7,439 00			645 86			8,802 34
" public building	1,496 93								1,496 93
" quarantine station	108 94								108 94
Revelstoke Canadian Bank of Commerce building (Int. Dept.)		35 33	1,459 36						1,494 69
Revelstoke post office	442 56	105 00							547 56
Rossland post office, etc		55 95		627 15	505 59	376 58	92 37		1,657 64
Saanichton experimental farm	43 55				221 80				265 35
Salmon Arm forest ranger's office		120 00	60 00						180 00
Sidney experimental farm	1,865 67					58 70			1,924 37
" immigration building		28 80							28 80
Summerland experimental farm	50 12								50 12
Union Bay post office		245 98		221 60	86 50	132 37			686 45
Vancouver Chinese detention building			350 00						350 00
" drill hall	727 07								727 07
" dredging office (D. P. W.)			1,699 50						1,699 50
" Empire building (Mar. & Fish. Dept.)			560 00			5 58			565 58
" examining warehouse		976 38	5 35	8,414 74	1,103 05	222 21	57 85	681 00	11,463 58
" Imm. detention building (old)		92 65		2,131 63	463 13	32 59			2,720 00
" Imm. detention building (new)	128,870 39								128,870 39
" new post office, etc	615 99	1,588 72	66 00	13,113 08	1,954 91	3,113 60	184 25	450 35	21,087 00
" old post office (Assay office)		364 95		1,707 15	502 75	131 79	82 00		2,791 64
" postal station 'A,' C.P.R		138 36	3,592 49						3,730 85
" " 'B'	76 50	2,452 69	8,400 00	1,939 15	363 76	364 36	53 35		13,649 81
" " 'C' (new)	52,087 03								52,087 03
" " 'C' (rented)		24 40	1,350 00	1,372 91	279 43	93 75	18 15		3,138 67

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Construction and Improvements.	Repairs and Furniture.	Rents.	Salaries of and Supplies for Caretakers.	Heating.	Lighting.	Water.	Power.	Total.
PUBLIC BUILDING.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
British Columbia—Con.									
Vernon post office, etc.		235 95		925 95	439 41	290 13	45 00		1,936 44
Victoria astronomical observatory (Little Saanich Mountain)	74,877 60	18 65							74,896 25
Victoria Belmont bldg. (D.P.W., P.O.D.)		5 25	4,307 50	906 55	219 80	255 78	26 22		5,721 05
" drill shed	114,151 78				104 71				114,256 49
" examining warehouse (Ames-Holden building)		115 05	7,500 00	960 00	42 10	35 96	17 92	185 83	8,856 86
" fumigating plant (C.P.R. wharf)			37 50						37 50
" immigration building		664 52	10 50	7 25	354 02	217 51	108 09	83 90	1,445 79
" marine office (old custom house)		209 52							209 52
" meteorological observatory	103 00			944 20	152 70	186 51	21 77		1,408 18
" new post office, etc.	40,011 04	2,054 60	84 00	10,294 27	1,783 36	1,744 65	108 08	637 66	56,717 66
" old post office, etc		1,213 02		268 55	26 85	73 46	106 36		1,688 24
" generally			6 00		81 40	24 56	13 75		125 71
William's Head quarantine stn.	9,835 75	180 00			2,536 43				12,552 18
Minor offices throughout the province		80 90							80 90
Totals, *British Columbia*	461,766 27	16,158 16	44,440 70	58,357 57	17,557 63	13,140 54	1,702 38	2,341 74	615,464 99

Name of Work.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
PUBLIC BUILDINGS.	$ cts.	$ cts.	$ cts.	$ cts.
Yukon Territory				
Heating, lighting, water, etc. for all public buildings in Yukon Territory			62,536 69	62,536 69
Total, *Yukon Territory*			62,536 69	62,536 69
Generally.				
Advertising coal tenders—Dominion buildings			3,028 96	3,028 96
Post office fittings aud supplies—Stock taken at Toronto for distribution throughout the Provinces	10,394 89			10,394 89
Flags for Dominion public buildings			4,947 12	4,947 12
Printing, stationery, instruments, travelling, etc.			18,234 93	18,234 93
Salaries of resident clerk of works, etc.			45,615 36	45,615 36
Totals—*Generally*	10,394 89		71,826 37	82,221 26

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia.					
Abercrombie Point	404 05				404 05
Advocate wharf improvements		2,195 08			2,195 08
Amaguadus Pond (Castle Bay) wharf			200 29		200 29
Amherst harbour improvements	6,763 54		754 68		7,518 22
Anderson's Cove, new breakwater		126 41	173 53		299 94
Annapolis, ice piers			90 63		90 63
Arisaig, wharf extension		1,898 78			1,898 78
Baddeck wharf			499 91		499 91
Baker's Point (East Jeddore), wharf			99 86		99 86
Bass River wharf			1,029 98		1,029 98
Battery Point breakwater		400 00			400 00
Bear Cove (Halifax Co.) boat skid		37 50			37 50
Big Harbour (Victoria Co.) wharf			399 87		399 87
Big Pond (Cape Breton) wharf and shed		350 00			350 00
Black Point wharf			450 00		450 00
Blanche breakwater			66 00		66 00
Boularderie Centre wharf			154 85		154 85
Broad Cove breakwater			1,500 86		1,500 86
Burlington wharfs			16 42		16 42
Cabbage Gut (La Have islands)	599 62				599 62
Canada Creek breakwater			40 32		40 32
Canning wharf			797 18		797 18
Canso	8,111 56				8,111 56
Cape Negro, completion of wharf		890 68			890 68
Caribou Harbour	1,082 25				1,082 25
Carr's Brook, protection work		10 07			10 07
Centreville (Trout Cove) breakwater, E. R. Reid's claim		22,439 96	183 89		22,623 85
Chebogue boat channel		150 00			150 00
Cheticamp Point wharf			99 50		99 50
Chezzetcook, head of wharf		2,299 61			2,999 61
Comeau's Cove breakwater			1,531 94		1,531 94
Comeau's Hill breakwater extension		1,250 00			1,250 00
Cow Bay (Port Morien), breakwater			1,850 54		1,850 51
Cross Island (Lunenburg Co.)	1,161 27				1,161 27
Dartmouth (Ferry wharves)	297 02				297 02
D'Escousse wharf			74 34		74 34
Digby pier renewals			1,919 15		1,919 15
East Chezzetcook (Red Island) break'ter			1 88		1 88
East End (Cape Sable Island), protection works			698 77		698 77
East Ferry, breakwater wharf		3,895 10			3,895 10
East River (Pictou Co.), improvements		104,088 70			104,088 70
Ecum Secum (Halifax Co.) breakwater wharf		12 02			12 02
Feltzen South, wharf		50 00	700 01		750 01
First South (Lunenburg Co.)	2,463 17				2,463 17
Fox Island, breakwater extension		1,286 87			1,286 87
Freeport wharf			37 45		37 45
French River, extension of breakwater pier		25 00	74 25		99 25
Fruids Point wharf			122 32		122 32
Gabarus Harbour breakwater			203 01		203 04
Georgeville wharf			472 04		472 04
Grand Etang breakwater			599 92		599 92
Granville Centre wharf			977 11		977 11
Great Village wharf			150 02		150 02
Halifax dry dock (new)		95 60			95 60
Hantsport wharf		4,204 00			4,204 00
Harbourville breakwater			3,791 55		3,791 55
Harrigan Cove wharf			509 76		509 76
Herring Cove wharf		170 50			170 50

SESSIONAL PAPER No. 19

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts
Nova Scotia—Con.					
Inverness, harbour improvements		210 00			210 00
Jamesville breakwater		3,413 62			3,413 62
Joggins Mines breakwater		4,992 70			4,992 70
Kelly's Cove breakwater			1,290 22		1,290 22
Kempt Head wharf			824 82		824 82
Kingsport, repairs to piers			2,359 61		2,359 61
Kraut Point wharf		53 24			53 24
L'Ardoise breakwater			519 90		519 90
" beach protection			400 82		400 82
Leonard's Cove breakwater (Annapolis Co.)			49 11		49 11
Litchfield breakwater extension		115 92	431 46		547 38
Little Anse, repairs to breakwater			760 37		760 37
Little Bass river improvements		1,167 42			1,167 42
Little Bras d'Or improvements		32 21			32 21
Little Harbour (Pictou Co.) wharf			206 46		206 46
Little Harbour (Lunenburg Co.)	1,891 87				1,891 87
Little River (Digby Co.) breakwater		91 64			91 64
Livingston's Cove wharf			209 31		209 31
Lockeport	29,860 64				29,860 64
Lower Burlington wharf		159 90			159 90
Lunenburg, harbour improvements	26,644 60				26,644 60
McKays Point (Judique), Inverness Co., breakwater			198 92		198 92
McKays Point, Lower Washabuck, Victoria Co., wharf			899 74		899 74
McNair's Cove, breakwater wharf		599 92			599 92
Mabou Harbour	13,919 32				13,919 32
Mahoney's Beach (Antigonish Co.) roadway			29 31		29 31
Malignant Cove breakwater		30 00			30 00
Margaree Harbour breakwater			411 09		411 09
Margaretville breakwater			4,785 22		4,785 22
Meteghan breakwater			149 84		149 84
Middle Country Harbour wharf			764 18		764 18
Mill Creek channel		400 00			400 00
Minudie wharf			634 37		634 37
Mosher's Bay breakwater		4,998 17			4,998 17
Mushaboon wharf	298 86	83 50			382 36
Necum Teuch wharf			72 02		72 02
New Harbour breakwater			805 46		805 46
North Belleville wharf		815 27			815 27
North Sydney breakwater			50 00		50 00
" ballast wharf			750 03		750 03
North West Cove (*see* Tancock Island).					
Nyanza, wharf, warehouse		179 13			179 13
Osburn's breakwater extension		183 47			183 47
Ostrea Lake, wharf and shed		1,814 37			1,814 37
Peggy's Cove breakwater		1,044 07			1,044 07
Petite Rivière breakwater			999 99		999 99
Pictou Harbour	2,815 18				2,815 18
" Ferry landing	259 80				259 80
" Commissioner's wharf	5,831 80				5,831 80
Plaster Mines (Victoria Co.) wharf		64 70			64 70
Port Dufferin, east wharf			999 13		999 13
" west wharf (shed)		300 07			300 07
Port George (Annapolis Co.) wharf			19 00		19 00
Porter's Lake, boat channel to Three Fathom Harbour		100 01	20 00		120 01
Port Felix (Guysboro Co.) roadway to wharf		519 14			519 14
Port Hastings wharf			495 46		495 46

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia—Con.					
Port Hawkesbury wharf			429 64		429 64
Port Hood wharf			297 78		297 78
Port Mulgrave wharf		55 80			55 80
Pugwash wharf			499 97		499 97
Quoddy, repairs to wharf			976 91		976 91
Rainy Cove wharf		4,079 17			4,079 17
River John wharf		103 36			103 36
Rockland wharf (shed)		202 41			202 41
Ross Ferry wharf			28 63		28 63
Round Hill wharf			500 00		500 00
St. Joseph (Inverness Co.) breakwater			249 22		249 22
St. Mary's River (Guysboro) removal of boulders		899 98			899 98
Sandy Cove breakwater			111 75		111 75
Seaforth breakwater			263 20		263 20
Selma (Hants Co.) wharf			149 41		149 41
Shad Bay, wharf extension		500 58			500 58
Shag Harbour wharf			777 24		777 24
Shelburne wharf (shed)			2 05		2 05
Short Beach breakwater			56 86		56 86
Sight Point wharf			100 10		100 10
Smith's Cove breakwater	13,526 23	780 09			14,306 32
South Bay (Ingonish) wharf extension		2,499 00			2,499 00
South Gut, St. Ann's (Victoria Co.) wharf			319 88		319 88
South Ingonish Ferry wharf			77 00		77 00
South Lake (Lakevale) breakwater, north side		699 90			699 90
South Lake (Lakevale) breakwater, south side		349 91			349 91
Spry Bay (Henley's) wharf		105 00			105 00
Stonehurst (Lunenburg Co.)	761 36				761 36
Summerville wharf			5 70		5 70
Surett's Island (Yarmouth Co.) wharf		148 96			148 96
Swim's Point wharf			1 75		1 75
Sydney Harbour—					
South Bar (cribwork)			189 50		189 50
Quarantine station wharf			302 97		302 97
Tancook Island, breakwater at North-west cove		273 10			273 10
Tatamagouche wharf			387 75		387 75
The Haulover (Shelburne Co.), cribwork		661 68			661 68
The Squam	495 91				495 91
The Thrum (Upper Port Latour), beach protection		895 66			895 66
Three Fathom Harbour, beach protection works, etc		1,800 03			1,800 03
The Wharves (Lunenburg Co.), beach protection		490 00			490 00
Tidnish wharf			413 40		413 40
Trenton	28,882 63				28,882 63
Trout Cove (*see* Centreville)					
Tusket Wedge (*see* Wedgeport)					
Upper Port Latour wharf			703 31		703 31
Upper Prospect, breakwater extension		382 75			382 75
" wharf			500 90		500 90
Vogler's Cove breakwater and landing skids		999 10			999 10
Vogler's Cove wharf			236 87		236 87
Wallace	4,276 91				4,276 91
Washabuck Centre, repairs to wharf			1,100 00		1,100 00
Wedgeport (Tucket Wedge) wharf			297 68		297 68
West Arichat breakwater			25 00		25 00

SESSIONAL PAPER No. 19

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Nova Scotia—Con.					
West Berlin, beach protection			245 77		245 77
West Chezzetcook breakwater		1,723 29			1,723 29
West Head (Cape Sable Island), breakwater extension		2 50			2 50
West Pubnico wharf			397 64		397 64
Windsor, harbour improvements	2,287 91	149 23			2,437 14
Wine Harbour (Guysboro) channel		36 00			36 00
Wolfville, wharf and harbour improvements		17 20			17 20
Wycocomagh wharf			39 55		39 55
Wreck Cove dam			749 02		749 02
Yarmouth harbour impts	10,052 73	4,091 83	1,953 29		16,097 85
Generally	3,735 73			7,623 41	11,359 14
Totals, *Nova Scotia*	166,423 96	189,190 88	51,887 44	7,623 41	415,125 69
Prince Edward Island.					
Alberton			2,972 38		2,972 38
Belfast (Halliday's) wharf			74 51		74 51
Belle River, breakwater and freight shed		222 22	2,649 41		2,871 63
Bonshaw (see West River)					
Bridgetown (Kings county)	4,888 72				4,888 72
Brudenell, wharf reconstruction		3,096 43			3,096 43
Cape Traverse wharf			1,335 65		1,335 65
Cardigan, River South, wharf			99 37		99 37
Chapel Point pier			207 65		207 65
Charlottetown harbour	14,378 60				14,378 60
" ferry wharf	1,769 36				1,769 36
" railway wharf	1,883 68				1,883 68
Creosoted timber for general repairs			4,944 70		4,944 70
Darnley	6,228 03				6,228 03
Franklyn Point (North river)	2,225 38				2,225 38
Georgetown	2,760 13				2,760 13
Grand River	11,651 83				11,651 83
Higgins Shore pier			174 75		174 75
Kier's Shore pier			1,359 47		1,359 47
Little Sands wharf		213 85			213 85
McPherson's Cove wharf			1,057 23		1,057 23
Malpeque	5,832 64				5,832 64
Miminegash, north bk. water			149 87		149 87
Montague (Lambert's) pier			894 01		894 01
Murray Harbour, south pier			25 97		25 97
North Cardigan (Newport) pier			101 63		101 63
North Lake boat harbour			39 31		39 31
North River Bridge, wharf	1,876 07				1,876 07
North River (see Franklyn Point)					
Panmure Island wharf	1,450 25		50 00		1,500 25
Pinette wharf, shed		270 99			270 99
Point Prim (Orwell Bay) wharf			20 00		20 00
Port Selkirk, wharf			60 37		60 37
Pownal	4,797 34		2,505 56		7,302 90
Red Point wharf			2,070 28		2,070 28
Robinson's Island breakwater			1,269 75		1,269 75
Rocky Point wharf	9,644 91	17,319 84			26,964 75
Rustico breakwater			112 54		112 54
St. Mary's Bay wharf			1,500 08		1,500 08
Souris Harbour breakwater extension		5,697 49			5,697 49
Summerside breakwater			43 14		43 14
Tignish, breakwater and beach protection		2,484 79			2,484 79
Vernon River, piers			745 69		745 69

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Prince Edward Island—Con.					
West Point wharf			998 33		998 33
West River, pier at Bonshaw	167 50				167 50
West River, wharf at McEachern's	875 56				875 56
Generally	1,867 98			2,296 21	4,164 19
Totals—*Prince Edward Island*	72,297 98	29,305 61	25,461 65	2,296 21	129,361 45
New Brunswick.					
Albert, berth for vessels		83 30			83 30
Anderson's Hollow, wharf approach			19 80		19 80
Bathurst, harbour improvements	25,658 74	142,740 63			168,399 37
Baie du Vin wharf			41 44		41 44
Beaver Harbour wharf			1,009 47		1,009 47
Black's Harbour, (Charlotte Co.) wharf			88 95		88 95
Black River wharf			520 77		520 77
Buctouche Beach, extension of breast-works and breakwaters	5,915 72	2,535 57			8,451 29
Buctouche wharf	23,601 37		124 72		23,726 09
Burnt Church wharf			4,770 38		4,770 38
Burton Court House wharf			149 00		149 00
Campbellton, below range lights	6,369 11				6,369 11
" deep water wharf	4,329 00				4,329 00
" market wharf	2,288 90		451 92		2,740 82
" wharf	1,063 28				1,063 28
Cape Bald breakwater pier			3,589 89		3,589 89
Caraquet wharf			1,190 72		1,190 72
Chamberlain Landing, (*see* Stonehaven)					
Chipman	2,773 79				2,773 79
Chockfish breakwater			691 25		691 25
Chocolate Cove wharf approach		1,648 36			1,648 36
Cocagne	1,153 10				1,153 10
" wharf at church		91 45			91 45
" new wharf		7 67			7 67
" old wharf		81 01			81 01
Creosoted timber for general repairs			314 01		314 01
Dalhousie deep water wharf			1,809 44		1,809 44
Dipper Harbour breakwater wharf			403 95		403 95
Dorchester wharf		11,987 53			11,987 53
Douglas Harbour (Queens Co.)	2,045 19				2,045 19
Douglastown (Northumberland Co.)	3,091 35				3,091 35
Durham wharf (Restigouche Co.)		2,028 99			2,028 99
Dykeman's shoal	8,667 34				8,667 34
Evandale wharf			25 00		25 00
Fairhaven (Deer Island) wharf			10 40		10 40
French Lake, removal of snags		115 01			115 01
Fredericton wharf		54 55			54 55
Gooseberry Cove wharf		82 00			82 00
Grand Anse breakwater			2,050 00		2,050 00
Grand Lake (Queens Co)	7,305 23				7,305 23
Grandigue	992 73				992 73
Great Salmon river breakwater			97 94		97 94
Grimross canal (Queens Co.)	1,427 87				1,427 87
Leonardville wharf (floating slip)			7 48		7 48
Little Black river	2,030 99				2,030 99
Little Dipper harbour, wharf approach		111 72			111 72
Lord's Cove wharf		531 08			531 08
Lower Caraquet wharf			1,390 68		1,390 68
Lower Derby	6,618 54				6,618 54
McClures Bay	1,427 01				1,427 01
Maquapit lake	9,867 32				9,867 32

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
New Brunswick—Con.					
Martin's Head breastworks		3,223 61			3,223 61
Miscou wharf		8 00			8 00
Moncton wharf			198 75		198 75
Neguac wharf			46 81		46 81
Oak Point, traverse	14,770 14				14,770 14
Oak Point, wharf			81 61		81 61
Oromocto, wharf	9,095 50		149 13		9,244 63
Petit Rocher, breakwater, etc			199 22		199 22
Portage River, breakwater, etc		893 27			893 27
Quaco, eastern breakwater, reconstruction		128 54	4,486 89		4,615 43
Red Store (Charlotte Co.), wharf			318 86		318 86
Rexton	634 49				634 49
Richibucto Beach, extention of breakwaters		30,014 86			30,014 86
Richibucto Cape, breakwater		2,009 21			2,009 21
River St. Croix	250 30				250 30
River St. John, removal of snags		1,883 00			1,883 00
River St. John, Upper Jemseg, removal of snags		1,752 54			1,752 54
River St. John and tributaries :—					
Edmunston, wharf 1,500 71					
Everett, (Mink Cove) 299 06					
Grab-all, Tobique River, breakwater 500 21					
Grand river 399 88					
Green river 570 90					
Iroquois river 396 86					
Little Tobique river 947 21					
Quisibus river 194 50					
Red Rapids 247 96					
St. Francis river 100 00					
Siegas river 199 50					
Tobique Narrows 200 00					
Trout river 372 87					
Turner's breakwater 150 09					
Woolhampton 49 50					
Generally 1,536 34					
		7,665 59			7,665 59
River St. John, wharfs in tidal water :—					
Appleby wharf 37 39					
Earle's wharf 4,006 25					
Gagetown wharf 64 81					
Hatfield wharf 237 43					
Long Point wharf 5,514 22					
Millidgeville wharf 4,244 81					
Renforth wharf 4,055 97					
Summerville wharf 4,130 71					
Weir wharf 33 88					
White's Bluff wharf 5,604 90					
River St. Louis (Lower), approach to wharf		27,930 37			27,930 37
St. Andrews, wharf		995 08	130 00		1,125 08
St. Charles (Kent Co.), wharf				362 42	362 42
St. John harbour :—		1,620 11	550 77	26 12	2,197 00
Beacon Bar		54,935 02			54,935 02
Channel		55,418 12			55,418 12
Courtenay Bay		754,725 89	107,702 63		862,428 52
Foul ground		3,780 43			3,780 43
Negro Point, breakwater extension			734 00		734 00
Partridge Island, quarantine station deep water wharf			248 99		248 99

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
New Brunswick—Con.					
Partridge Island, water pipe line				329 23	329 23
St. John West, winter port, berths		27,190 95			27,190 95
St. John West, deep water wharfs, etc.			92,631 05		92,631 05
St. John West, filling			29,709 97		29,709 97
St. John West, marine dock		1,637 44			1,637 44
St. John West, piers			21,521 92		21,521 92
St. John West, galleries			4,337 07		4,337 07
St. John West—permanent sheds		1,374 34			1,374 34
" temporary sheds		47,504 93			47,504 93
" Union pier, water pipe extension		1,146 57			1,146 57
" berths Nos. 4 and 5	2,300 00				2,300 00
" berth No. 7	2,071 55				2,071 55
" berths Nos. 14 and 15		8,462 85			8,462 85
Seal Cove, eastern breakwater pier			75 00		75 00
Shediac Island wharf		122 70			122 70
Shippegan Gully breakwater		3,472 30			3,472 30
Stonehaven breakwater			2,477 58		2,477 58
Stonehaven (Chamberlain's) wharf			397 43		397 43
Tabucintac wharf			3 60		3 60
The Range (Queens Co.)	498 16				498 16
Thomas Creek, protection work		2 78			2 78
Tracadie, breakwater, etc		1,456 77			1,456 77
Upper Caraquet, wharf reconstruction		1,853 46			1,853 46
Upper Maugerville wharf			11 37		11 37
Upper Salmon River, breakwater extension		5,152 00			5,152 00
Welshpool (Campobello), wharf warehouse		166 24			166 24
Weldford (Kent Co.) wharf		96 50			96 50
West Branch (Weldford, Kent Co.) landing wharf		251 56			251 56
Wilson's Beach (Campobello) wharf			45 78		45 78
Woodward's Cove breakwater		774 99			774 99
Generally	3,734 73			7,052 46	10,787 19
Totals, *New Brunswick*	1,050,284 49	567,012 25	27,967 01	7,052 46	1,652,316 21
Quebec.					
Amherst wharf, Magdalen islands		1,912 10			1,912 10
Angers wharf			28 40		28 40
Anse à Beaufils breakwater		111 48	260 35		371 83
Anse à Fougère, removal of boulders		20 00			20 00
Anse à Gilles wharf			2,799 00		2,799 00
Anse à la Cave, removal of boulders		200 05			200 05
Anse à la Louise, removal of boulders		43 25			43 25
Anse à l'Islot wharf			597 33		597 33
Anse aux Griffonds, piers		115 65	685 69		801 34
Anse St. Jean, wharf extension		4,479 53			4,479 53
Aylmer (Lake Deschênes) wharf			150 00		150 00
Baie St. Paul (Cap aux Corbeaux) wharf			61 20	93 75	154 95
Barachois de Malbaie harbour improvements		47 89			47 89
Batiscan wharf	2,059 76	14,623 32			16,683 08
Beauport wharf	9,386 63				9,386 63
Beloeil (*See* River Richelieu)					
Bersimis wharf		1,908 29			1,908 29
Berthier (en bas) wharf		1,486 39			1,486 39
Berthierville wharf			42 78		42 78
Bic, wharf at Pointe à Côté		28 00			28 00

SESSIONAL PAPER No. 19

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts
Quebec—Con.					
Boucherville, wharf reconstruction		4,795 74			4,795 74
Boucherville retaining wall		1,966 89			1,966 89
Brèche à Manon, removal of boulders		20 00			20 00
Bryant's Landing wharf			45 00		45 00
Cacouna wharf			2,461 93		2,461 93
Cap à l'Aigle wharf (shed)			146 46	16 80	163 26
Cap Chat, extension of training pier		390 59			390 59
Cape Cove, removal of boulders		21 00			21 00
Cap de la Madeleine, wharf enlargement		17,608 01			17,608 01
Cap d'Espoir, removal of boulders		20 00			20 00
Cap Rosiers, removal of boulders		20 25			20 25
Cap St. Ignace, wharf			1,112 10		1,112 10
Carleton, protection works		688 31			688 31
Cedars, repairs to river wharf			1,725 08		1,725 08
Caughnawaga, wharf	3,578 56		298 07		3,876 63
Champlain, wharf			1,221 31		1,221 31
Chicoutimi, rang St. Ignace, protection work		195 62			195 62
Chicoutimi, wharf		7,888 72		29 14	7,917 86
Como	3,218 91				3,218 91
Coteau du Lac, repairs to river wharf			1,123 34		1,123 34
Côte Ste. Catherine, wharf		27 76			27 76
D'Autray	5,088 81				5,088 81
Descente des Femmes, wharf			1,499 91		1,499 91
Desjardins, wharf			698 63		698 63
D'Israëli, wharf			2,174 41		2,174 41
Doucet's Landing	3,661 77				3,661 77
East Templeton, wharf			69 59		69 59
Echafaud Basque, removal of boulders		250 00			250 00
Escoumains, wharf			1,071 79		1,071 79
Fabre, wharf			100 00		100 00
Fassett ice-breaker (Ottawa river)			12 50		12 50
Father Point, wharf improvements	220 54	1,384 53			1,605 07
Fort William (Pontiac Co.) wharf			201 00		201 00
Fraserville (*see* Riv. du Loup, en bas)					
Gaspé Basin, wharf improvements		7,946 86			7,946 86
Georgeville, wharf			87 35		87 35
Graham, wharf			2 95		2 95
Grandes et Petites Bergeronnes, removal of boulders		507 77			507 77
Grande Entrée, breakwater (Magdalen islands)	17,546 45	254 02			17 800 47
Grand Marsh (*see* Ste. Clotilde)					
Grand Méchins, wharf extension		3,624 07			3,624 07
Grande Rivière de Gaspé, wharf			4,478 42		4,478 42
Grenville	1,962 79				1,962 79
Grindstone (Magdelen islands) br'kwater		449 89			449 89
Grondines, wharf			31 00		31 00
Grosse Isle (Magdelen islands) breakwater		3,049 76			3,049 76
Grosse Isle quarantine Sta., Eastern wharf	1,102 68		1,200 00	4,761 82	7,064 50
Harrington Harbour, wharf extension		2,353 85			2,353 85
Havre aux Maisons (Magdelen islands), repairs to pier			946 09		946 09
High Falls, Riv. du Lièvre, wharf			122 12		122 12
Havre des Trois Ruisseaux, removal of boulders		20 00			20 00
Hospital Bay (Magdalen island) breakwater		1,608 05			2,608 05
Hudson, wharf			582 28		582 28
Hull, wharf			18 00	285 27	303 27

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec—Con.					
Ile aux Coudres, wharf		252 80	3,883 56		4,136 36
Ile aux Fraises (River St. Maurice)	2,265 61				2,265 61
Ile aux Morpions (River St. Maurice)	2,904 62				2,904 62
Ile Perrot	4,547 01				4,547 01
Ile Perrot South, wharf		5,027 62			5,027 62
Ile Verte wharf			4,499 99		4,499 99
Jersey Cove, removal of boulders		39 25			39 25
Kamouraska wharf			99 52		99 52
Knowlton landing wharf			50 00		50 00
Lake Temiskaming, cutting ice				236 47	236 47
Lanoraie, ice breaker			59 38		59 38
Laprairie protection works		19,975 45			19,975 45
Lauzon dry dock (*see* Levis)					
Lavaltrie wharf				44 38	44 38
Les Eboulements wharf			1,895 23		1,895 23
Levis deep water wharf	1,543 77	27,692 00			29,235 77
Levis graving dock (Lorne dock)				24,389 49	24,389 49
Levis-Lauzon graving dock (new)		699,146 75			699,146 75
L'Islet wharf			81 95		81 95
Little Bonaventure island breakwater extension		597 04			597 04
Longueuil wharf	2,443 17				2,443 17
Longueuil Canada s.s. Lines wharf	30,847 06				30,847 06
Lotbinière wharf			621 18		621 18
Louiseville (*see* Rivière du Loup, en haut)					
Magog wharf			44 66		44 66
Malbaie pier		13,215 33			13,245 33
Manche d'Epée, removal of boulders		19 93			19 93
Maria beach protection			1,599 04		1,599 04
Matane wharf		21 65			21 65
Megantic wharf			12 00		12 00
Mistassini wharf (shed)			699 64		699 64
Montebello wharf			20 43		20 43
Montmagny wharf			100 00		100 00
Montreal dry dock				629 99	629 99
Moose Bay wharf			176 51		176 51
Murray Bay wharf improvements	2,866 98	4,473 31			7,340 29
Natashquan, extension of wharf		59 52			59 52
New Carlisle wharf			1,463 62		1,463 62
Newport Island breakwater			1,630 60		1,630 60
Nicolet retaining wall		1,186 09			1,186 09
Nominingue wharf		1,669 23			1,669 23
Norway Bay wharf (Ottawa river)			19 25		19 25
Papineauville wharf	709 75		98 64		808 39
Passe Pierre (Saguenay), removal of boulders		198 50			198 50
Percé wharf			1,445 41		1,445 41
Perkin's Landing wharf			28 96		28 96
Petite Rivière Est, breakwater		228 46			228 46
Petite Tourelle, removal of boulders		147 98			147 98
Piché Point (*see* Pointe Piché)					
Pierreville wharf			192 11		192 11
Piopolis wharf			295 07		295 07
Pointe à Brousseau pier		2,878 92			2,878 92
Pointe à Elie breakwater (Magdalen islands)		369 46			369 46
Pointe à Trudel (River St. Maurice)	1,115 38				1,115 38
Pointe aux Esquimaux wharf			42 26		42 26
Pointe à Pizeau (Sillery) wharf			782 60		782 60
Pointe aux Trembles (Portneuf) wharf			1,355 88		1,355 88
Pointe Cavagnole (Valois) wharf			244 76		244 76
Pointe Claire wharf			23 46	150 00	

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec—Con.					
Pointe Jaune, removal of boulders		20 00			20 00
Pointe Piché wharf (Temiskeming)			162 45		162 45
Pointe St. Pierre, breakwater			600 72		600 72
Pointe Valois (*see* Pointe Cavagnole).					
Port au Saumon	20,316 98				20,316 98
Quebec Harbour, improvements to navigation		396,675 03			396,675 03
Quyon, wharf		873 70			873 70
Red Head, removal of boulders		47 50			47 50
Repentigny, wharf				22 00	22 00
Rigaud wharf (shed)		358 34			358 34
Rimouski, harbour improvements	3,801 26	50,025 76		1,162 71	54,992 73
Rimouski, wharf			3,200 55		3,200 55
Rivière aux Renards, wharf			3,622 63		3,622 63
Rivière Batiscan (channel)	31,398 65				31,398 66
Rivière Bois Blanc	1,730 81	2,225 87			3,956 68
Rivière Blanche, wharf (St. Ulric)			125 42		125 42
Rivière Chateauguay (dams)		2,066 86			2,066 86
Rivière du Lièvre, lock				4,077 59	4,077 59
Rivière du Lièvre	13,328 22				13,328 22
Rivière du Loup (Fraserville), wharf improvements		585 20			585 20
Rivière du Loup (Louiseville), wharf	4,130 03		49 60		4,179 63
Rivière Gatineau, bank protection		136 50			136 50
Rivière Girard, wharf (Témiscouata)			999 89		999 89
Rivière Jésus (St. Eustache, Ste Rose)	648 49				648 49
Rivière la Pipe, wharf (shed)			61 40		61 40
Rivière Nicolet	110 13				110 13
Rivière Ouelle, wharf		4,531 01			4,531 01
Rivière Richelieu, at Belœil				108 59	108 59
Rivière St. Louis	10,729 76				10,729 76
Rivière St. Maurice, rapids	3,857 10				3,957 10
Rivière St. Maurice, middle channel at mouth	2,153 92				2,153 92
Rivière Tikouabé, spur dyke	7,250 84	350 05			7,600 89
Rivière Verte, dyke			500 00		500 00
Roberval (Lake St. John), wharf reconstruction		8,552 29			8,552 29
Ste Adelaïde de Pabos, breakwater			1,481 37		1,184 37
St. André de Kamouraska, wharf			978 10		978 10
St. Andrews, wharf			35 00		35 00
St. Alphonse, addition to wharf		540 99			540 99
Ste. Anne de Beaupré wharf		18,930 13			18,930 13
Ste. Anne de Bellevue, wharf	17,760 23				17,760 23
Ste. Anne du Saguenay, wharf	540 05	10,315 02	39 92		10,894 99
Ste. Anne des Monts, landing pier, etc.		36,389 50			36,389 50
St. Antoine de Richelieu, protection wall		300 00			300 00
St. Barthelemi (Berthier Co.), dyke		999 75			999 75
St. Charles de Richelieu, wharf			183 03		183 03
Ste. Clothilde de Chateauguay (Grand marsh), improvements		35 95			35 95
Ste. Croix, wharf			10 00		10 00
St. Damien (Berthier Co.), ice-breakers		800 08			800 08
St. Denis, wharf (Rivière Richelieu)			258 53		258 53
Ste. Eloi de l'Ile Verte, removal of boulders		999 42			999 42
Ste. Emelie (Leclercville), wharf		307 56			307 56
Ste. Famille, Ile d'Orleans wharf			23 80		23 80
St. Félicien (Rivière Ashouapmouchouan), dykes	610 84	500 00			1,110 84
Ste. Félicité, wharf			199 75		199 75

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Quebec—Con.					
St. François, Ile d'Orléans (South), wharf			23 45		23 45
St. François du Lac, wharf			254 93		254 93
St. Fulgence wharf	746 52		1,178 28		1,924 80
St. Gédeon, removal of boulders		498 53			498 53
Ste. Geneviève (Ile Bizard) Approaches			848 77		848 77
St. Georges de Malbaie breakwater		519 80			519 80
St. Godfroi wharf			349 96		349 96
St. Grégoire de Montmorency wharf			3,781 17		3,781 17
St. Ignace de Loyola dykes			736 78		736 78
St. Irénée les Bains wharf	1,984 84		5,142 89		7,127 73
St. Jean des Chaillons wharf		2,798 63			2,798 63
St. Jean, Ile d'Orleans, wharf extension		1,487 09	4 25		1,491 34
St. Jean Port Joli wharf		225 00	994 65		1,219 65
St. Jerome wharf (shed)			99 78		99 78
St. John's, rent of shed				126 75	126 75
St. Joseph de Sorel wharf		825 41	31 23		856 64
St. Laurent, Ile d'Orleans, wharf				148 85	148 85
St. Majorique wharf			150 00		150 00
St. Marc wharf			794 12		794 12
St. Michel de Bellechasse wharf			2,499 93		2,499 93
St. Michel des Saints (Berthier Co.), icebreakers		1,501 83			1,501 83
St. Nicolas wharf			10 00		10 00
St. Omer wharf			294 06		294 06
St. Paul, Ile aux Noix, wharf			30 50		30 50
St. Roch des Aulnaies wharf			29 05		29 05
St. Siméon wharf			38 45	36 30	74 75
St. Ulric (*See* Riv. Blanche)					
St. Valier, extension to wharf		1,298 96			1,298 96
Sault au Mouton, removal of boulders		595 99			595 99
Sault Montmorency, revetment wall		1,545 00			1,545 00
Senneville	20 00				20 00
Shigawake wharf			199 69		199 69
Sorel, deep water wharf		133 85		25 00	158 85
Squateck, landing pier			148 51		148 51
Stratford wharf			2,496 15		2,496 15
Three Rivers, new coal dock	3,302 09	4,063 86			7,365 95
Tourville (Riv. du Loup, en haut)	1,254 31				1,254 31
Trois Lacs (Beauce Co.) wharf			925 40		925 40
Traverse à Ricard (Riv. St. Maurice)	2,683 88				2,683 88
Valleyfield wharf		64 69			64 69
Varennes protection works		1,805 32			1,805 32
Vaudreuil wharf			49 95		49 95
Verchères wharf			2,234 57		2,234 57
Verdun wharf	11,912 13		103 03	37 18	12,082 34
Ville-Marie wharf (Timiskaming)	7,892 49		249 75		8,142 24
Yamachiche, landing			19 65		49 65
Yamaska, lock and dam				1,703 25	1,703 25
Generally	5,371 66			38,139 96	43,511 62
Totals, *Quebec*	250,638 49	1,411,167 40	84,619 65	76,225 29	1,822,650 83
Ontario.					
Armitage Landing, wharf		11 50			11 50
Arnprior, wharf			116 26	20 63	136 89
Bare Point (Port Arthur), breakwater		54 484 30			54 484 30
Barry's Bay, wharf		35 30			35 30
Bath (Bay of Quinte)	3,427 59				3,427 59
Bayfield, piers			2,933 81		2,933 81
Beaumaris, wharf			23 57		23 57

SESSIONAL PAPER No. 19

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario—Con.					
Beaverton, harbour improvements			50 00		50 00
Belleville " "	33,827 52	1,347 61			35,175 13
Bensfort, wharf (Peterboro Co.)			246 20		246 20
Big Bay, wharf		10 50			10 50
Blanche River (South Branch) Improvements		135 00			135 00
Blind River, wharf			983 77		983 77
Bongards (Bay of Quinte)	741 44				741 44
Bowmanville	6,567 00				6,567 00
Brighton, wharf			63 53		63 53
Brockville, removal of obstructions		143 17			143 17
Bruce Mines, wharf, etc	7,630 94				7,630 94
Burlington Beach, *re* old Elsinore wharf	1,357 85		46 58		1,404 43
Burlington, revetment wall		61,989 70			61,989 70
Burlington Channel, south pier			243 14	4,237 20	4,480 34
Cache Bay	12,275 62				12,275 62
Cobourg, harbour	2,637 05				2,637 05
Cobourg, centre pier		13,294 19		60 83	13,355 02
Cobourg, east pier		10,501 33			10,501 33
Collingwood, graving dock No. 1				15,000 00	15,000 00
Collingwood, graving dock No. 2				9,208 96	9,208 96
Colpoy's Bay, wharf			2,726 32		2,726 32
Craigee Lee, wharf			116 45		116 45
Depot Harbour, wharf			41 21		41 21
Doe Lake, wharf		110 00			110 00
Dyer's Bay, wharf			1,560 72		1,560 72
Elk Lake, wharf		570 52			570 52
Fitzroy Harbour, wharf	9,107 88	166 61			9,274 52
Fort William, harbour improvements	588,696 93	326,007 89			914,704 82
Fort Frances, wharf		5 88			5 88
Freddy Channel, (Georgian Bay)	1,122 00				1,122 00
French River dam				894 92	894 92
French River, waterways improvements		45,697 04			45,697 04
Gananoque, wharf		1,482 09			1,482 09
Goat Island (Georgian Bay)	63,708 47				63,708 47
Goderich, harbour improvements	8,557 88				8,557 88
" southwest breakwater		195,330 00			195,330 00
" repairs to piers			4,779 65		4,779 65
Grand Bend, piers, etc			1,098 26		1,098 26
Haileybury, harbour improvements	4,025 43	9,965 70		1,948 17	15,939 30
Hamilton " "	35,860 88	79,854 12			115,715 00
Hawkesbury	3,702 68				3,702 68
Hilton (Markville) wharf			2,497 46		2,497 46
Holland River, wharf (Simcoe)			4 95		4 95
Honey Harbour, W. McClenchy's claim	854 44				854 44
Honey Harbour, Deer Island channel	3,037 50				3,037 50
Honey Harbour, Duff's channel	772 60				772 60
Huntsville, wharf		126 88			126 88
Juniper Island (Stony lake) anchor piers		363 77			363 77
Kagawong, wharf		269 71			269 71
Kawartha Park, wharf		50 45			50 45
Kenora, wharf		100 00		50 00	150 00
Kensington, wharf and warehouse		192 73			192 73
Kincardine	2,313 14				2,313 14
Kingston Harbour, impts		137,144 18			137,144 18
Kingston, R.M.C., wharfs			505 06		505 06
Kingsville, piers	8,098 26		1,466 99		9,565 25
Lakefield, landing stage		715 51			715 51
Leamington, wharf		6,688 47			6,688 47
Leith, wharf reconstruction		25 25			25 25
Little Detroit River	7,508 16				7,508 16
Little Grassy River, (Lake of the Woods)	4,555 60				4,555 60

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario—Continued.					
L'Orignal, wharf			990 78		990 78
Lorrain, wharf	1,270 85		50 00		1,320 85
Madawaska River, deepening channel	2,302 24				2,302 24
Magnetawan, wharf			139 75		139 75
Meaford, revetment wall, etc.		16 70			16 70
Michipicoten Harbour, (Mainland)	1,187 52				1,187 52
Michipicoten Island (Quebec Harbour)	10,270 19				10,270 19
Midland, wharf	700 00		16 89		716 89
Minaki, wharf		3,949 90			3,949 90
Montreal River (Latchford dam)		6,636 44		1,952 78	8,589 22
Newcastle	1,172 68				1,172 68
New Liskeard wharf			570 00		570 00
North Bay, wharf			318 53		318 53
Oakville, wharf			1,500 03		1,500 03
Ottawa River, Victoria island, channel	547 24				547 24
Owen Sound, harbour impts	1,675 00	20 60			1,695 20
Parry Sound, wharf			767 33		767 33
Pelee Islands:					
North Dock			703 05		703 05
South Dock			748 94		748 94
Penetanguishene, turning basin	4,315 60				4,315 60
Peterboro, George st., wharf				16 20	16 20
Peterboro	798 50				798 50
Petewawa, wharf			100 50		100 50
Picnic Islands, impts. (Georgian Bay)	28,710 01				28,710 01
Pleasant Point, wharf			1,384 42		1,384 42
Point Edward	121 40				121 40
Port Arthur, harbour impts	80,338 39	265,981 72			346,323 11
Port Arthur, dry dock				35,641 50	35,641 50
Port Bruce, piers			984 83		984 83
Port Burwell, piers	3,798 49		9,297 20		13,095 69
Port Credit, harbour impts		251 00			251 00
Port Elgin, breakwater	2,683 67		48 57		2,732 24
Port Hope, harbour impts	4,458 49	38,619 95			43,078 44
Portland, wharf		2,418 71			2,418 71
Port Maitland	294 48				294 48
Port Perry, wharf		4,877 20			4,877 20
Port Rowan, pier			500 00		500 00
Port Stanley, harbour improvements	14,300 15	11,511 21	496 31		26,308 17
Providence Bay, wharf		10,386 92	2,713 39		13,100 31
Pumpkin's Point, wharf		44 73			44 73
Rainy River, maintenance of gauges				17,019 47	17,019 47
Rainy River, mouth	2,531 55				2,531 55
Richard's Landing, wharf warehouse, etc.		5,593 33			5,593 33
River Thames, breaking ice jams				2,191 70	2,191 70
River Thames, removal of obstructions		3,016 45			3,016 45
River Thames, protection work at Chatham		1,000 63			1,000 63
Robin's Landing, wharf				25 00	25 00
Roche's Point wharf			882 03		882 03
Rondeau Harbour, piers, etc.	3,995 44		2,499 29		6,494 73
St. John Creek, stop-log dam		377 95			377 95
Sand Point wharf		162 31			162 31
Sarnia, wharf and shelter basin	8,088 17	302 17			8,390 34
Sault Ste. Marie, harbour improvements	48,545 97				48,545 97
Sault Ste. Marie wharf			5,098 94		5,098 94
Severn River at Washago, dam		1,631 08			1,631 08
Shanty Bay wharf	864 25	793 00	32 93		1,690 18
Silver Centre wharf			150 00		150 00
Southampton wharf			21 25		21 25
South Baymouth (Manitoulin Islands), wharf and warehouse		107 61			107 61

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ontario—Con.					
Sturgeon Falls, wharf extension	943 72	1,113 79			2,057 51
Sturgeon River channel	373 10				373 10
Sydenham River (Dresden-Tupperville)	300 00				300 00
Thessalon wharf		5,083 77			5,083 77
Thornbury wharf			421 58		421 58
Tobermory glance booms				27 20	27 20
Toronto—Harbour improvements—					
*Canadian Stewart contract		162,616 78			162,616 78
Eastern gap	17,636 96				17,636 96
Fisherman's Island (new building)		6,332 37			6,332 37
Island, shore protection		8,835 08			8,835 08
New western entrance		24,022 28			24,022 28
Trent Bridge, wharf		2,095 75			2,095 75
Trenton, harbour improvements	2,350 00				2,350 00
Vail's Point, wharf		314 10			314 10
Wellington, wharf and harbour improvements		59,457 95			59,457 95
Wendover wharf			192 39		192 39
Whitby, harbour improvements		688 81			688 81
Windsor, harbour improvements	1,172 03	3,264 92			4,436 95
Generally	5,371 67			16,116 61	21,488 28
Totals, *Ontario*	1,061,504 62	1,578,350 24	50,133 36	104,411 17	2,794,399 39

*NOTE—The work called for by the contract with the Canadian Stewart, Limited, falls into four separate sections:—

A. Sea wall.
B. Breakwater.
C. Ship channel and turning basin.
D. Retaining walls.

At the present stage of the work, however, it is impossible to apportion the expenditure to either of these sections. This remark should also apply to expenditures reported in previous years as "sea walls", viz: in 1913-14, $10,640.38 and in 1914-15, $757,201 14.

When the contract has been completed an apportionment of all expenditure thereunder will be made.

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts	$ cts.	$ cts.
Manitoba.					
Anderson's (Lake Winnipeg)	520 40				520 40
Crescent Island (Red River)	3,274 16				3,274 16
Gimli	1,634 44				1,634 44
Hnausa (Lake Winnipeg)	722 37				722 37
Howardville, Lake Winnipeg	2,215 88				2,215 88
Icelandic River	3,993 24				3,993 24
Le Pas, wharf	25 10	3,173 38			3,198 48
Pine Creek (Lake Winnepegosis)	702 12				702 12
Red River, improvements		30,000 09			30,000 09
" middle ground	6,251 34				6,251 34
" new channel	8,879 65				8,879 65
St. Andrew Rapids, lock and dam	5,315 29	8,620 28		20,863 94	34,799 51
Selkirk, marine railway				3,234 84	3,234 84
" slough	4,538 42				4,538 42
" wharf	1,811 11	6,063 12			7,874 23
Snake Island (Lake Winnepegosis)	1,885 62				1,885 63
Spruce Island "	345 97				345 97
The Forks (Red River)	180 10				180 10
Winnipeg Beach	1,865 40				1,865 40
Winnipeg Harbour, wharfs	5,113 74	15,787 72			20,901 46
Winnepegosis	8,282 56				8,282 56
Generally	324 57			4,672 72	4,997 29
Totals, *Manitoba*	57,881 49	63,644 59		28,771 50	150,297 58
Saskatchewan and Alberta.					
Athabaska River, improvements		400 00			400 00
Big Stone River (Cumberland Lake, Sask)	10,972 62				10,972 62
Edmonton, wharf		647 00			647 00
Grouard, Alta	3,160 03				3,160 03
Last Mountain Lake (Craven dam)	19 00	249 95			268 95
Pigeon Lake, improvements		50 00			50 00
Prince Albert, protection works		8,974 33			8,974 33
Saskatchewan River, improvements		24,625 00			24,625 00
Sturgeon River, improvements		1,533 07			1,533 07
Generally				1,681 91	1,684 91
Totals, *Saskatchewan and Alberta*	14,151 65	36,479 35		1,681 91	52,315 91
British Columbia.					
Ainsworth wharf		3,176 19			3,176 19
Arrowhead wharf		235 40			235 40
Arrowhead (Back channel)	4,842 60				4,842 60
Bamfield wharf			1,099 95		1,099 95
Blubber Bay	1,368 55				1,368 55
Campbell River wharf			5,102 33		5,102 33
Cedar Creek	314 04				314 04
Clayocot wharf		4,156 71			4,156 71
Columbia and Kootenay Riv. Impts.—					
At Revelstoke		1,431 40			1,431 40
Below Burton		7,883 59			7,883 59
Columbia and Kootenay river wharves—					
Beaton			44 50		44 50
Burton			131 97		131 97
Crawford Bay			7 00		7 00
Deer Park			340 87		340 87
Edgewood			17 27		17 27
Halcyon		2,472 61			2,472 61

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
British Columbia—Con.					
Columbia and Kootenary River wharves—*Con.*					
Kootenay Bay			15 00		15 00
McDonald's Landing		4,843 36			4,843 36
Renata Bay			8 00		8 00
Rock Island		391 10			391 10
Syringa			8 62		8 62
Courtenay River protection work	21,722 31	1,972 41			23,694 72
Dignan's Bay float		390 42			390 42
East Robson wharf		33 19			33 19
Eburne	12,605 40				12,605 40
Esquimalt, new dry dock		24,912 90			24,912 90
" old dry dock				19,241 36	19,241 36
Fraser and Thompson river wharves—					
Chilliwack			999 70		999 70
Gleneden		345 40			345 40
Kamloops			242 03		242 03
Langley			823 28		823 28
McAdams			235 22		235 22
Matsqui			294 03		294 03
Pitt Lake			235 22		235 22
Riverside			176 92		176 92
Sicamous			21 60		21 60
Whonnock			176 72		176 72
Fraser river improvements—					
Eburne wharf		2,786 25			2,786 25
Nicomen, dam No. 2 (fence)		287 50			287 50
Nicomen slough (bank protection)		62 27			62 27
North Arm	137,667 89	120,022 46			257,690 35
Steveston, sandheads	24,111 46				24,111 46
Steveston jetty		137,550 40			137,550 40
Westham Island protection work		498 89			498 89
Snagboat *Samson*				18,354 62	18,354 62
Tamboline slough	15,516 94				15,516 94
Fraser River (Upper) and tributaries, improvements—					
Stuart and Tachi rivers		12,350 20			12,350 20
Gambier Island float		200 00			200 00
Ganges Harbour wharf		200 00			200 00
Glen Valley wharf	3,983 36				3,983 36
Goose Bay wharf			1,495 20		1,495 20
Gower Point wharf		137 42			137 42
Graham's Landing	968 53				968 53
Hardy Bay wharf		1,900 00			1,900 00
Kamloops revetment wall		34 50			34 50
Kelowna	240 22				240 22
Kincolith wharf		600 00			600 00
Maples (Gabriola) wharf		185 30			185 30
Massett (new) wharf			999 53		999 53
Massett (old) wharf		4,688 07			4,688 07
Nanaimo, harbour improvements	48,511 10				48,511 10
Naas river	5,681 19				5,681 19
Newport (*see* Squamish)					
New Westminster, Annieville bar	16,989 89				16,989 89
New Westminster wharf			3,492 69		3,492 69
New Westminster, sand-heads	37,757 03				37,757 03
Nicomen	27,933 80				27,933 80
Okanagan river improvements	7,499 27	4,994 76			12,494 03
Penticton	223 58				223 58
Port Alberni wharf		2,498 93			2,498 93
Port Clements wharf		500 00			500 00
Port Essington, landing float			47 35		47 35

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
HARBOURS AND RIVERS.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
British Columbia—Con.					
Powell River breakwater			4,931 72		4,931 72
Prince Rupert graving dock (inspection)				2,700 00	2,700 00
Proctor Narrows	15,379 26				15,379 26
Quatsino float		432 24			432 24
Queen Charlotte City wharf			5,724 90		5,724 90
Refuge Bay wharf			2,998 67		2,998 67
Rock Bay	8,047 52				8,047 52
Royston (Roy's Beach) wharf		370 00			370 00
Saanichton float		358 35			358 35
Salmon Arm City wharf	889 55				889 55
Seaside Park float		2,982 90			2,982 90
Seymour Arm	439 36				439 36
Shushartie Bay wharf			600 00		600 00
Shuswap	2,017 76				2,017 76
Sicamous, Government dock	1,046 84				1,046 84
Sidney wharf			500 00		500 00
Skeena river	10,753 54				10,753 54
Skidegate, wharf on Indian reserve			6,813 00		6,813 00
Somass river, removal of snags		400 00			400 00
Spiller river wharf			3,918 32		3,918 32
Squamish float		1,168 78			1,168 78
Stewart (Portland canal) wharf			2,985 93		2,985 93
Stickine river, improvements		5,611 02			5,611 02
Summerland	658 83				658 83
Two Beacon bar	5,865 94				5,865 94
Union Bay wharf		510 00	550 00		1,060 00
Valdez Island landing		399 30			399 30
Vancouver, Dominion Government wharf	14,091 65				14,091 65
" False creek	313,669 89				313,669 89
" First Narrows	129,976 90				129,976 90
" harbour improvements		959,601 50			959,601 50
Victoria, harbour improvements	213,578 91	1,195,771 70			1,409,350 61
White Rock wharf		10,157 24			10,157 24
Wilcox Landing (Salmon Arm)	1,589 25				1,589 25
William's Head, quarantine station		2,873 68			2,873 68
Generally	19,114 44			10,656 19	30,070 63
	1,105,356 80				3,723,727 85
Less refund from Henry, McFee & McDonald *re* rent of dredge *re* Vancouver government wharf	16,000 00				16,000 00
Totals, *British Columbia*	1,089,356 80	2,521,781 34	45,637 54	50,952 17	3,707,727 85
Yukon Territory.					
Yukon river, improvements to navigation		4,876 91			4,876 91
Totals, *Yukon Territory*		4,877 91			4,876 91
Generally.					
General expenses of staff, etc				14,644 71	14,644 71
Salaries of district engineers, assistants, etc				403,687 90	403,687 90
Test borings for sundry projected works		17,030 94			17,030 94
Totals, *Harbours and rivers, generally*		17,030 94		418,332 61	435,363 55

SESSIONAL PAPER No. 19

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

DREDGING PLANT.

NOTE.—Under the present system of cost-accounting the bulk of the outlay for repairs to departmental dredges has been included with cost of operating and distributed to the several localities at which dredging has been performed. There have, however, been some minor expenditures (for dismantling condemned plant, upkeep and repairs to plant temporarily out of use, etc.), which could not properly be so distributed to localities and are, therefore, shown in the following statement under the column "repairs".

Name of Work.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
	$ cts.	$ cts.	$ cts	$ cts.
Maritime Provinces	30,540 01			30,540 01
Ontario and Quebec	21,168 71	3,151 93		24,320 64
Haileybury shipyard		501 50		501 50
Ottawa, Victoria island shipyard			20,737 26	20,737 26
Manitoba, Saskatchewan and Alberta	37 36			37 36
British Columbia	37,037 06			37,037 06
Totals, *Dredging Plant*	88,783 14	3,653 43	20,737 26	113,173 83
SLIDES AND BOOMS.				
River Saguenay	4,420 58		10,228 57	14,649 15
River St. Maurice	13,915 59		40,995 86	54,911 45
Ottawa District—				
Black river	1,078 80	1,543 78		2,622 58
Coulonge river	1,199 98	2 573 13		3,773 11
Gatineau river		503 26	600 00	1,103 26
Madawaska river		2,737 38		2,737 38
Ottawa river		225 70	27,130 18	27,355 88
Petawawa river		6,251 36		6,251 36
Trent and Newcastle district			517 24	517 24
Collection of slide and boom dues			1,496 96	1,496 96
Totals, *Slides and Booms*	20,614 95	13,834 61	80,968 81	115,418 37
ROADS AND BRIDGES.				
Maritime Provinces.				
International bridge between Clair, N.B., and Fort Kent, Me.	860 00			860 00
Matapedia road, improvements and repairs	2,550 55	493 26		3,043 81
Quebec and Ontario.				
Bryson bridge		975 46		975 46
Chapeau bridge		128 43		128 43
Des Joachims bridge		2,494 72		2,494 72
Gatineau bridge		38 63		38 63
North Timiskaming bridge	14,166 86			14,166 86
Pond Creek bridge (Wright)		60 71		60 71
Portage du Fort bridge		169 25		169 25
Ottawa City Bridges and Streets maintained by Government.				
Chaudiere bridge and approaches		4,061 17		4,061 17
Connaught Place and Wellington st			13,068 22	13,068 22
Lighting all above			2,240 10	2,240 10
York bridge (Grand river)		623 29		623 29
Saskatchewan and Alberta.				
Banff bridge (new)	413 15			413 15
Edmonton bridge (McDougal ave.)		2,398 35		2,398 35
Totals, *Roads and Bridges*	17,990 56	11,443 27	15,308 32	44,742 15

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—Continued.

Name of Work.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
TELEGRAPH LINES.	$ cts.	$ cts.	$ cts.	$ cts.
Newfoundland.				
Cape Ray (Subsidy)			250 00	250 00
Maritime Provinces.				
Bay of Fundy			2,569 11	2,569 11
Cape Breton	247 48		35,538 22	35,785 70
Escuminac			1,692 83	1,692 83
Partridge Island, cable		300 00		300 00
Seal Island, cable		58 00		58 00
Quebec (Mainland).				
Father Point (Subsidy)			500 00	500 00
North Shore, west of Bersimis			18,639 53	18,639 53
North Shore, east of Bersimis			27,442 35	27,442 35
Quebec county	5,000 00		4,230 22	9,230 22
Temiskaming	676 54		2,864 70	3,541 24
Quebec (Islands).				
Anticosti			8,930 08	8,930 08
Grosse Ile—Ile aux Coudres and Island of Orleans system			8,143 51	8,143 51
Magdalen islands			5,068 15	5,068 15
Cable ship *Tyrian*		27,491 87	42,675 91	70,167 78
Maritime Provinces and Gulf generally			776 61	776 61
Ontario.				
Pelee Island			1,892 53	1,892 53
Saskatchewan and Alberta.				
Saskatchewan and Alberta lines	30,523 74		117,417 99	147,941 73
British Columbia and Yukon.				
Ashcroft-Dawson			218,625 35	218,625 35
Edgewood-Nakusp			1,631 97	1,631 97
Golden-Windermere			7,938 48	7,938 48
Okanagan Valley system	19,400 08		49,775 02	69,175 10
Vancouver island, including Archipelago	6,483 01		84,236 01	90,719 02
British Columbia lines generally			1,428 46	1,428 46
Telegraph service generally			10,244 29	10,244 29
Totals, *Telegraph lines*	62,330 85	27,849 87	652,511 32	742,692 04

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916—*Continued.*

Name of Work.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
MISCELLANEOUS.	$ cts.	$ cts.	$ cts.	$ cts.
Surveys.				
Maritime Provinces			24,122 81	
Quebec			41,252 23	
Ontario			30,824 61	
Manitoba			2,986 97	
Saskatchewan and Alberta			4,994 32	
British Columbia			12,851 91	
Generally			953 80	117,986 65
Upper Ottawa Storage Dams.				
Coulonge river survey	5,374 97			
Gordon creek dam	176 20			
Investigation	943 42			
Kippewa Dam	207 00			
Madawaska survey	7,599 35			
Mattawa survey	1,432 08			
Ottawa river survey	815 44			
Quinze dam	11,351 59			
Timiskaming dam	60,504 11			
Generally	53,873 86			142,278 02
Accounts Branch.				
Salaries and travelling expenses of agents, clerks, etc., of outside service			20,144 92	20,144 92
Deep Waterways Commission			1,525 52	1,525 52
Georgian Bay ship canal, Royal Commission			17,694 10	17,694 10
International Commission, River St. John, N.B.			9,905 26	9,905 26
Investigation under Inquiries Act			250 00	250 00
Lake Winnipeg, inspection tug	2,015 97			2,015 97
Legal services *re* cases before International Joint Commission			7,097 15	7,097 15
Operation and maintenance of inspection boats			52,816 23	52,816 23
River gaugings			13,934 34	13,934 34
River St. Lawrence, metering			16,670 22	16,670 22
Monument to His Majesty the late King Edward VII	21 18			21 18
Gratuities to widows or other representatives of 29 deceased employees under Civil Service Amendment Act, Sec. 41			4,928 53	4,928 53
Superannuation Fund No. 1			18 75	18 75
War appropriation. Salaries in connection with military service.			94,344 04	94,344 04
Totals, *Miscellaneous*	144,315 17		357,315 71	501,630 88

AMOUNTS expended by the Department of Public Works of Canada during the fiscal year ended March 31, 1916.—*Concluded.*

Name of Work.	Dredging.	Construction and Improvements.	Repairs.	Staff and Maintenance.	Total.
RECAPITULATION.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Totals Public Buildings—					
Nova Scotia		51,707 32	14,717 09	69,629 58	136,053 99
Prince Edward Island		8,005 52	1,151 13	12,218 55	21,375 20
New Brunswick		127,184 90	8,613 98	62,595 49	198,394 37
Quebec		967,200 41	39,805 20	354,704 90	1,361,710 51
Ottawa buildings		1,006,592 14	417,208 14	868,675 16	2,292,475 44
Ontario (excluding Ottawa)		818,726 07	43,193 46	269,160 49	1,131,080 02
Manitoba		283,646 74	12,361 42	117,928 58	413,936 74
Saskatchewan		88,581 44	13,660 21	84,551 16	186,792 81
Alberta		238,489 81	9,688 70	106,984 87	355,163 38
British Columbia		461,766 27	16,158 16	137,540 56	615,464 99
Yukon Territory				62,536 69	62,536 69
Public buildings generally		10,394 89		71,826 37	82,221 26
Totals Harbours and Rivers—					
Nova Scotia	166,423 96	189,190 88	51,887 44	7,623 41	415,125 69
Prince Edward Island	72,297 98	29,305 61	25,461 65	2,296 21	129,361 45
New Brunswick	1,050,284 49	567,012 25	27,967 01	7,052 46	1,652,316 21
Quebec	250,638 49	1,411,167 40	84,619 65	76,225 29	1,822,650 83
Ontario	1,061,504 62	1,578,350 24	50,133 36	104,411 17	2,794,399 39
Manitoba	57,881 49	63,644 59		28,771 50	150,297 58
Saskatchewan and Alberta	14,151 65	36,479 35		1,684 91	52,315 91
British Columbia	1,089,356 80	2,521,781 34	45,637 54	50,952 17	3,707,727 85
Yukon Territory		4,876 91			4,876 91
Harbours and rivers generally—		17,030 94		418,332 61	435,363 55
Totals, dredging plant		88,783 14	3,653 43	20,737 26	113,173 83
" slides and booms		20,614 95	13,834 61	80,968 81	115,418 37
" roads and bridges		17,990 56	11,443 27	15,308 32	44,742 15
" telegraph lines		62,350 85	27,849 87	652,511 32	742,692 04
" miscellaneous		144,315 17		357,315 71	501,630 88
Grand totals of expenditure	3,762,539 48	10,815,169 69	919,045 32	4,042,543 55	19,539,298 04

MISCELLANEOUS

CONTRACTS LET BY THIS DEPARTMENT.

PROPERTY PURCHASED OR SOLD.

PROPERTY LEASED TO OR BY THE DEPARTMENT.

DIRECTOR'S REPORT, NATIONAL ART GALLERY.

NAMES OF CHIEF OFFICERS OF THE DEPARTMENT.

FOR THE

FISCAL YEAR ENDED MARCH 31, 1916

LAW CLERK'S OFFICE,
OTTAWA, August 1, 1916.

SIR,—I have the honour to transmit the following statements concerning the transactions of the department during the last fiscal year, with respect to contracts and property, and which are required for insertion in the annual report, 1915-1916, viz:—

No. 1.—Statement of contracts let by this department during the fiscal year ended March 31, 1916.

No. 2.—Statement of property purchased and sold by the department during the same period.

No. 3.—Statement of property leased to and by the said department during the same period.

No. 4.—A list of some of the Public Acts of the Parliament of Canada, passed at the last session, and Orders in Council having force of law and referring to the department.

I have the honour to be, sir,
Your obedient servant,

J. A. CHASSE,
Law Clerk.

R. C. DESROCHERS, Esq.,
Secretary, Public Works Department,
Ottawa.

STATEMENT

SHOWING

1ST.—CONTRACTS LET BY THE DEPARTMENT OF PUBLIC WORKS OF CANADA, FROM APRIL 1, 1915, TO MARCH 31, 1916.

2ND.—PROPERTY PURCHASED OR SOLD BY THE DEPARTMENT OF PUBLIC WORKS DURING THE FISCAL YEAR ENDED MARCH 31, 1916.

3RD.—PROPERTY LEASED TO AND BY THE DEPARTMENT OF PUBLIC WORKS DURING THE FISCAL YEAR ENDED MARCH 31, 1916.

STATEMENT No. 1—Contracts let by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.

Works.			Names of Contractors.	Date of Contract.	Amount.
					$ cts.
PUBLIC BUILDINGS.					
Nova Scotia.					
Amherst	Public building	Coal, per ton—Bit	W. A. Filmore		4 70
Annapolis	"	" "	Intercolonial Coal Mining Co		5 60
Antigonish	"	" "	Edward Haley		4 30
Arichat	"	" Anth., nut	C. P. Terrio		8 75
Baddeck	"	" Bit	Alex. McDonald		5 00
Bridgewater	"	" "	Dominion Coal Co		5 60
Canso	"	" Anth., egg	A. M. Whitman & Son		8 25
"	"	" Bit	A. M. Whitman & Son		6 25
Dartmouth	"	" "	Acadia Coal Company		4 15
"	New Public building	" "	Acadia Coal Company		4 15
"	Post office	Fittings	Office Specialty Manufacturing Co., Ltd	Aug. 14, 1915	1,500 00
Digby	Public building	Coal, per ton—Bit	W. E. Van Blarcom		6 25
Glace Bay	"	" "	Dominion Coal Company		4 10
Guysborough	"	" "	C. S. Strople		6 00
Halifax	New Custom-house	" "	Acadia Coal Company		4 15
"	Post office	" "	Acadia Coal Company		4 15
"	Examining warehouse	" Anth., stove	H. D. Mackenzie Company		7 75
"	Post office	Electric wiring and fittings	Farquhar Bros., Ltd	Aug. 14, 1915	598 00
Inverness	"	Coal, per ton—Bit	Inverness Railway & Coal Company		3 75
Kentville	Public building	" "	Acadia Coal Company		5 00
"	"	" Anth., egg	C. L. Dodge		7 90
"	Experimental farm	" " stove	A. M Wheaton		7 50
"	"	" " nut	A. M. Wheaton		7 75
Lunenburg	Public building	" " "	A. & H. Anderson		7 50
"	"	" " stove	A. & H. Anderson		7 25
Liverpool	"	" Bit	Dominion Coal Company		4 90
Nappan	Experimental farm	" Grate	R. W. Loring		4 50
New Glasgow	Public building	" Bit	Acadia Coal Company		4 50
North Sydney	"	" "	H. G. Campbell		3 50
"	Immigration office	" "	H. G. Campbell		3 50
Parrsboro	Public building	" "	W. J. Berry		4 50
Pictou	Custom-house	" "	Intercolonial Coal Mining Co		4 80
"	Post office	" "	Intercolonial Coal Mining Co		4 80
Shelburne	Public building	" "	Estate Joseph McGill		5 75
Springhill	"	" "	Dominion Coal Company		4 25

Sydney	"	"	"	Dominion Coal Company		3 50
"	"	Alterations and additions to heating system		C. Estane	Sept. 16, 1915	1,872 00
Sydney Mines	"	Coal, per ton	Bit	H. G. Campbell		3 50
Truro	Public building	Coal, per ton	Bit	J. H. Kent & Co		4 75
Westville	"	"	"	Intercolonial Coal Mining Co		4 25
Windsor	"	"	"	F. W. Dimock		4 65
Wolfville	"	"	Anth., egg	A. M. Wheaton		6 75
Yarmouth	"	"	" nut	L. E. Baker & Co		6 52
"	"	"	" furn	" "		6 52
Prince Edward Island.						
Charlottetown	Dominion building	Coal, per ton	Bit	C. Lyons & Co		5 10
"	Bank building	"	Anth., egg	G. E. Full		7 80
"	"	"	" stove	"		7 80
"	"	"	Bit	"		5 20
"	Experimental farm	"	Anth., egg	C. Lyons & Co		8 30
"	"	"	" nut	G. E. Full		8 45
"	"	"	Bit	"		6 40
Georgetown	Public building	"	Anth., furn	Poole & Thompson		7 95
"	"	"	Bit	"		4 95
"	"	"	Anth., nut	"		7 95
Montague	"	"	Bit	"		4 95
"	"	"	Anth., egg	"		7 95
Souris	"	"	" egg	C. Lyons & Co		8 00
"	"	"	" nut	"		8 25
Summerside	"	"	Bit	Tignish Trading Co		7 00
"	"	"	Anth., egg	"		9 00
Tignish	"	"	Bit	"		7 00
"	"	"	Anth., furn	"		9 00
New-Brunswick.						
Bathurst	Public building	Coal, per ton	Anth., egg	R. C. Rogers		9 00
"	"	"	Bit	"		7 00
"	Post office	"	Fittings	The J. T. Schell Company	Dec. 3, 1915	413 00
Campbellton	Public building	Coal, per ton	Bit	R. K. Shives		6 00
Chatham	"	"	Bit	Ed. Johnson		5 50
"	"	"	Anth., egg	The Stothart Mercantile Company		8 00
Dalhousie	"	"	" furn	Chas. Powell		9 00
"	"	"	Bit	"		7 00
Fairville	"	"	Anth., egg	Estate C. E. Colwell		7 75
"	"	"	" nut	"		7 75
Fredericton	"	"	" egg	S. L. Morrison		8 25
"	"	"	" nut	"		8 50
"	Experimental farm	"	Bit	"		7 00
"	"	"	Scotch	"		9 40
"	New building	"	Anth., egg	"		8 25
"	"	"	" egg	"		9 25

STATEMENT No. I.—Contracts let by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.—*Continued.*

Works.	Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—*Continued.*			$ cts.
New Brunswick—Concluded.			
Fredericton.....New building..... .... Coal, per ton—Anth., stove.... ..	S. L, Morrison	.....	8 40
" .....Customs.....Fittings....	The Berlin Interior Hardwood Co., Ltd... .	Mar. 27, 1916.	1,063 00
Grand Falls .....Public building... . .....Coal, per ton—Anth., furn	J. L. White	.....	10 75
" .. .. " ..... " " stove	"	....	10 75
Hartland. ..... " ..... " Bit.	Burtt Hardware Co.....	.....	7 50
" ..... " . ... " Anth., egg	"	.....	9 20
Marysville ..... " ..... " " "	S. L. Morrison.....	.....	9 10
" ..... " .. . . " " nut.....	"	.....	9 25
Milltown..... .. " ..... " " egg.....	G. H. Budd.....	.....	7 60
" .... " .... " " nut.....	"	.....	7 60
Moncton .... Post office ... ...Alterations and additions to fittings	P. N. Leblanc.....	Nov. 1, 1915..	1,130 00
Newcastle .....Public building .....Coal, per ton—Anth., furn.....	The Stothart Mercantile Co.....	.. ..	8 00
" ..... " . ... " Bit.	" "	....	5 50
Ossekeag..... " . ... " Anth., egg... ...	J. W. Smith.	.. ..	9 00
" ..... " ..... " " nut.....	"	....	9 00
Richibucto .. .. " ..... " " turn	W. E. Forbes	.....	9 85
" .. .. " ..... " " nut.....	"	....	9 85
St. John .. . .Old post office .... " " furn.	R. P. & W. F. Starr.....	....	6 75
" ..... " .. .. " " nut.... ...	"	.....	7 00
" ..... " ..... " Bit.	"	.....	4 50
" ....New " ..... " Anth., nut.....	"	.....	7 00
" ..... " " .. .. " " furn	"	.....	6 75
" .... " .... " Bit....	"	.....	4 50
" ... .Savings bank. ..... " Anth., egg.....	J. S. Gibbon & Co	....	7 40
" ..... " .... " " nut.....	"	....	7 90
" ..... " .... " Bit	R. P. & W. F. Starr.....	.....	4 50
" .. . . Custom house..... " Anth., furn.....	"	....	6 75
" .. .. " ... . " " nut.....	J. S. Gibbon & Co.....	.....	8 75
" .... " .... " Bit.....	R. P. & W. F. Starr.....	.....	4 50
" .... Immigration building... ..... " Anth., furn.....	"	... .	7 00
" . ... " " ..... . " " nut.....	"	.....	7 25
" ..... Public building... ....Fittings	The J. T. Schell Company.....	July 27, 1915.	13,161 00
" West..... " .....Coal, per ton—Anth., stove.....	Estate, C. E Colwell	.....	7 75
St. Stephen... ..... " .... " " egg.....	W. C. Purves	..... .	7 40

"	"	"	"	"	nut	"			7 40
"	Immigration building	"	"	"	stove	"			7 40
Sussex	Public building	"	"	"	furn	W. H. Culbert			8 80
"	"	"	"	"	nut	"			9 00
Tracadie	Lazaretto	"	"	"	egg	The Stothart Mercantile Co			10 75
"	"	"	"	Bit		"			8 25
"	Barn	Construction of				E. J. M. Bourgeois		April 7, 1915	2,875 00
Woodstock	Public building	Coal, per ton—Scotch				Burtt Hardware Company			9 00
"	"	"	"	—Anth.	stove	"	"		9 00

Quebec.

Acton Vale	Public building	Coal, per ton—Anth.,			egg	V. J. Mongeau			9 00
Arthabaska	"	"	"	"	"	J. E. C. Giroux——			8 50
Aylmer	"	"	"	"	"	Aylmer Coal and Supply Company			7 25
Berthierville	"	"	"	"	stove	B. Coutlee			10 00
Buckingham	"	"	"	"	egg	The Traders Company			7 45
"	"	"	"	"	stove	"	"		7 45
Cap Rouge	Experimental farm	"	"	"	egg	O. Gignac			8 75
Chicoutimi	Public building	"	"	"	furn	Massicotte & Tremblay			8 50
Coaticooke	"	"	"	"	egg	B. J. Smith & Son			7 60
"	"	"	"	"	nut	"	"		7 85
"	Old drill hall	Engineer's fixtures				W. J. Welch		May 7, 1915	1,500 00
Cookshire	Public building	Coal, per ton—Anth.,			furn	E. J. Planche & Company			8 25
Dundee	Custom house	"	"	"	stove	A. S. Matthews			7 25
"	"	"	"	"	nut	"			7 50
Drummondville	Public building	"	"	"	egg	Jimmy Hamel			8 75
East Angus	"	"	"	"	"	Louis Reid			9 50
"	"	"	"	"	nut	"	"		9 75
"	Post office	Fittings				The Berlin Interior Hardwood Company, Ltd.		July 27, 1915	2,040 00
Farnham	Public building	Coal, per ton—Anth.,			egg	A. B. Comeau & Co			7 75
Fraserville	"	"	"	"	"	E. A. Doucet			8 90
Granby	"	"	"	"	"	P. Phoenix			7 55
Hochelaga	Post office	"	"	"	"	Hart & Adair			6 70
"	"	"	"	"	nut	"	"		6 95
Hull	Public building	"	"	"	egg	Leclaire & Co			7 00
Iberville	"	"	"	"	stove	John Donaghy			6 15
Joliette	"	"	"	"	"	S. Bougeois			7 00
"	"	"	"	"	nut	"	"		7 00
"	Post office	Fittings				The J. T. Schell Co		Sept. 21, 1915	4,289 00
Jonquières	Public building	Coal, per ton—Anth.,			egg	Geo. P. Marcotte			8 65
"	"	"	"	"	nut	"	"		9 00
"	Post office	Fittings				R. A. Sproule		Nov. 9, 1915	1,119 00
Knowlton	Public building	Coal, per ton—Anth.,			furn	E. E. Mills			7 60
Lachine	"	"	"	"	egg	Martin & Co			7 50
"	"	"	"	"	nut	"	"		7 75
Lachute	"	"	"	"	egg	A. H. Ayers			8 00
"	"	"	"	"	nut	"	"		8 25
Laprairie	"	"	"	"	stove	Demers & McGee			7 25
"	"	"	"	"	nut	"	"		7 50

STATEMENT No. 1—Contracts let by the Department of Public Works of Canada from April 1, 1915 to March 31, 1916.—*Continued.*

Works.			Names of Contractors.	Date of Contract.	Amount.
					$ cts.
PUBLIC BUILDINGS—*Continued.*					
Quebec—Continued.					
L'Assomption	Public building	Coal per ton—Anth., furn.	Chas. Rho		8 10
Lennoxville	Experimental farm	" " "	Coderre & Son		8 50
"	"	" " nut	"		8 50
Levis	Public building	" " egg	P. Robitaille		7 00
Longueuil	"	" " furnace	Thos. Millette		6 50
"	"	" " "	D. Brissette & Co		6 50
Louiseville	"	" " egg	J. A. Savoie		7 50
Magog	"	" " "	T. B. Mullins		7 25
Marieville	"	" " nut	J. A. Fournier		7 45
"	"	" " egg	J. A. Fournier		7 20
Matane	"	" " "	J. A. Boulay		12 00
Megantic	"	" " "	A. H. Evans		8 85
Montmagny	"	" " "	A. Belanger		8 40
Montreal	Custom house	" " furnace	Evans Bros		6 45
"	Customs canal office	" " stove	Evans Bros		6 70
"	Examining warehouse	" " bit	Canadian Import Company		3 80
"	New examining warehouse	" " Anth., furn.	Evans Bros		6 45
"	Postal Station "A"	" " egg	Evans Bros		6 70
"	" "B"	" " "	Hart & Adair		6 70
"	" "C"	" " "	Hart & Adair		6 70
"	" "D"	" " "	Evans Bros		6 70
"	" "E"	" " "	Hart & Adair		6 70
"	" "F"	" " "	Evans Bros		6 70
"	" "H"	" " furnace	Hart & Adair		6 45
"	" "M"	" " egg	Evans Bros		6 70
"	P. O. Station "N"	" " "	Hart & Adair		6 70
" (Westmount)	Post Office	" " "	Evans Bros		6 70
"	P. O. Station "S"	" " furnace	Hart & Adair		6 45
"	Revenue building	" " egg	Evans Bros		6 70
"	Forestry branch	" " egg	Hart & Adair		6 70
"	Detention hospital	" " furnace	Hart & Adair		6 45
"	"	" " stove	Hart & Adair		6 70
"	Postal Station "A"	Fittings	Jos. Bourque	May 25, 1915	825 00
"	" "A"	Alterations to	R. E. Edwards & Son	May 28, 1915	3,000 00

"		General post office	Iron stairway				The Dennis Wire & Iron Works Co., Ltd.	Oct. 23, 1915.	1,825	00
"		Examining warehouse	Fittings				The Berlin Interior Hardwood Co., Ltd.	Feb. 5, 1916.	19,500	00
"	(Record R'm)	"	Fittings				The Steel Equipment Company, Ltd.	Mch. 11, 1916.	6,449	00
Murray Bay		Post Office and Customs	Fittings				The Berlin Interior Hardwood Co., Ltd.	Feb. 5, 1916.	1,347	00
Nicolet		Public building	Coal per ton—Anth., egg				J. B. Lemay		8	00
"		"	"	"	"	"	J. Courteau		8	00
Pierreville		"	"	"	"	stove	Lapierre & Son		8	00
Plessisville		"	"	"	"	egg	La Fonderie de Plessisville		9	60
Quebec		Custom house	"	"	"	furnace	Canadian Import Company		6	99
"		"	"	"	"	egg	Canadian Import Company		7	24
"		Marine agency	Coal, per ton—Anth., furn				Madden & Son		7	15
"		Examining warehouse	"	"	"	"	Canadian Import Company		6	99
"		Immigration building	"	"	"	egg	"	"	7	24
"		"	"	"	"	Bit—	"	"	4	49
"		" hospital	"	"	"	Anth., egg	Madden & Son		7	55
"		" "	"	"	"	stove	"		7	55
"		Post office	"	"	"	furn.	"		7	10
"		" "	"	"	"	stove	"		7	40
"		Governor General's quarters	"	"	"	furn	"		7	40
"		" " "	"	"	"	stove	"		7	65
"		Weights & Measures	"	"	"	egg	Canadian Import Company		7	24
"		Post office	Alterations to Fittings				Louis Boivin Enregistrée	April 23, 1915.	4,598	95
"		Custom house	Waterproofing basement				Standard Paint Company of Canada, Ltd.	June 28, 1915.	6,157	00
Richmond		Post office	Coal, per ton—Anth., egg				S. E. Desmarais		7	00
Rigaud		" "	"	"	"	"	C. Decoste		8	50
"		" "	"	"	"	nut	C. Decoste		9	00
Rimouski		" "	"	"	"	egg	Talbot & Company		8	80
Roberval		" "	"	"	"	"	Coté, Boivin & Co.		8	25
Rock Island		Public building	"	"	"	furn	C. H. Kathane		8	00
"	"	"	"	"	"	nut	"		8	25
Shawinigan		" "	"	"	"	egg	C. H. Flamand		8	25
Shawville		Post office	Fittings				The Berlin Interior Hardwood Company, Ltd.	Feb. 5, 1916.	775	00
Sherbrooke		Public building	Coal, per ton—Anth., egg				Coderre & Son		7	50
Sorel		" "	"	"	"	furn	Leclaire & Son		7	90
Ste. Agathe		" "	"	"	"	egg	O. C. Glen		8	50
"		" "	"	"	"	nut	"		8	75
"		Post office	Fittings				The Berlin Interior Hardwood Company, Ltd.	Sept. 15, 1915.	1,585	00
Ste. Anne de la Pocatière		Public building	Coal, per ton—Anth., stove				P. Robitaille		12	00
"	"	"	"	"	"	nut	"		12	00
St. Gabriel de Brandon		" "	"	"	"	egg	Ulrich Roch		7	95
St. Henri (Montréal)		Post office	"	"	"	furn	Evans Bros.		6	70
St. Hyacinthe		" "	"	"	"	egg	Hector Chartier		7	50
"		Inland Revenue	"	"	"	"	"		7	50
St. Jerome		Public building	"	"	"	furn	S. G. Laviolette		7	25
St. Johns		Custom house	"	"	"	egg	John Donaghy		6	00
"		Post office	"	"	"	"	"		6	00
St. Lambert		Public building	"	"	"	"	W. A. Irving		7	10
"		" "	"	"	"	nut	"		7	25

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1915 to March 31, 1916—*Continued.*

Works.	Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—*Continued.*			$ cts.
Quebec—Concluded.			
St. Lambert ..... Public building. ..... Coal per ton—Anth., egg	C. W. Smiley		7 10
St. Laurent (Jacques-Cartier) ..... Post office ..... " " egg	Hart & Adair		6 70
St. Roch ..... " " ..... " " furn	Madden & Son		7 00
St. Sauveur ..... " " ..... " " egg	"		7 35
Ste. Thérèse de Blainville ..... Public building. ..... " " furn	P. E. Desjardins		8 00
Terrebonne ..... " ..... " " egg	M. Moody & Sons		7 60
Thetford Mines ..... " ..... " " furn	Alp. Blais		7 35
Three Rivers ..... " ..... " " egg	Z. Marchand (Son)		7 00
Valleyfield ..... " ..... " " "	S. Langevin		7 50
Victoriaville ..... " ..... " " "	J. E. C. Giroux		8 00
Ontario.			
Acton ..... " ..... " " egg	J. C. Hill		7 00
" ..... " ..... " " nut	"		7 25
Alexandria ..... " ..... " " egg	Morris Bros		7 25
" ..... " ..... " " nut	"		7 50
Arnprior ..... " ..... " " egg	J. S. Moir		8 25
" ..... " ..... " " "	R. S. Drysdale		8 25
Almonte ..... " ..... " " "	Knight Bros		7 30
" ..... " ..... " " nut	"		7 55
Amherstburg ..... " ..... " " furn	Falls Bros		7 25
Athens ..... " ..... " " "	G. N. Purcell		8 30
Aurora ..... " ..... " " egg	Alf. Butcher		7 00
" ..... " ..... " " nut	"		7 00
" ..... Post office and Customs ..... Fittings	The Can. Office & School Furniture Co., Ltd	May 14, 1915.	1,520 00
Aylmer ..... Public building. ..... Coal per ton—Anth., egg	F. P. Frank		7 40
Barrie ..... " ..... " " "	B. Parker		7 20
" ..... " ..... " " nut	"		7 20
" ..... " ..... Clock tower	The Barrie Planing Mill Co.	April 29, 1915.	3,450 00
Belleville ..... " ..... Coal per ton—Anth., stove	N. Allen		7 44
Kitchener ..... " ..... " " egg	Kleepfer & Co		7 00

"	"	"	"	"	G. W. Bramm	7 00
"	"	"	"	"	A. A. Pipe	7 00
"	Post office	Electric wiring and fittings			A. Lockhart & Company	Jan. 12, 1916	830 00
Bowmanville	Public building	Coal per ton—Anth., stove			E. W. Loscombe		7 33
"	"	"	"	nut	"		7 33
Bracebridge	"	"	"	stove	G. W. Ecclestone		8 00
"	"	Fittings			The Berlin Office and Fixture Co., Ltd.	July 29, 1915	528 00
Brampton	"	Coal per ton—Anth., stove			Brampton Coal Co		7 50
"	"	"	"	nut	"		7 50
Brantford	"	"	"	egg	Gibson Coal Co.		6 08
"	"	"	"	nut	"		6 08
"	New Post office	"	"	egg	"		6 08
"	Public building	Construction of			A. J. Brown	Oct. 17, 1915.	16,985 00
Bridgeburg	"	Coal per ton—Anth., stove			E. Benner & Sons		6 60
Brockville	"	"	"	egg	Brockville Lumber Co.		7 60
"	"	"	"	stove	"		7 60
"	"	Plumbing and marble works			George Ross & Company	Sept. 8, 1915.	807 00
"	"	Painting and kalsomining			Travers Fitzpatrick	Sept. 20, 1915.	795 00
"	"	Plastering			James Dunlevie	Sept. 20, 1915.	150 00
Burford	Post office	Coal per ton—Anth., egg			The Burford Coal & Gas Co.		7 00
"	"	"	"	nut	"		7 25
"	"	Fittings			The Can. Office & School Furniture Co., Ltd.	Sept. 4, 1915.	940 00
Carleton Place	Public building	Coal per ton—Ant, egg			Fred. Morris		7 60
Chatham	"	"	"	furn	A. R. Crow		6 40
Chesley	"	"	"	egg	P. Teckler		7 25
Clinton	"	"	"	furn	A. Forbes		7 75
"	"	"	"	nut	"		8 00
Cobourg	"	"	"	egg	Geo. Plunkett		6 85
"	Immigration building		"	nut	"		7 15
Collingwood	Public building		"	egg	Toner & Gregory		7 00
"	"	"	"	nut	"		7 25
"	"	Structural changes			Herrington, Bryan & Healey	Aug. 13, 1915.	1,900 00
"	Post office	Fittings			The Berlin Interior Hardwood Co., Ltd.	Aug. 27, 1915.	2,843 00
Cornwall	Public building	Coal per ton Ant., egg			W. C. McGuire		7 10
"	"	"	"	nut	"		7 10
Deseronto	"	"	"	egg	The Rathbun Company		7 50
Dresden	"	"	"	furn	H. E. Wells		8 00
"	"	"	"	nut	"		8 25
Dundas	"	"	"	furn	J. A. Stnrrock		6 75
Eganville	"	"	"	egg	John Lisk jr		8 05
"	"	"	"	stove	"		8 05
Elmira	"	"	"	egg	W. H. Schneider & Co.		7 25
"	Post office	Fittings			Office Specialty Manufacturing Co., Ltd.	April 28, 1915.	1,415 00
Elora	Public building	Coal per ton—Ant., egg			C. Fisher		6 85
Fergus	"	"	"	stove	A. E. Nichols		7 50
"	"	"	"	nut	"		7 75
Fort William	"	"	"	egg	Jas. Davidson		7 50
"	Examining warehouse		"	egg	"		7 50
"	"	"	"	nut	"		7 50
"	"	"	Electric elevator		The Turnbull Elevator Mfg. Co, Ltd.	May 27, 1915.	3,890 00

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.—*Continued.*

Works.			Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—*Continued.*					$ cts.
Ontario—Concluded.					
Fort William	Examining warehouse	Fittings	The Berlin Interior Hardwood Co., Ltd.	Nov. 12, 1915.	4,973 00
"	" "	Electric lighting for 1 yr p. kil. hr.	The corporation of the City of Fort William	Nov. 15, 1915.	0 05
"	" "	Electrical power for 1 yr p. kil. hr.	" " "	Nov. 15, 1915.	0 04
Galt	" "	Coal per ton—Ant., stove	W. A. Smith		6 90
Gananoque	Custom house	" " egg	James Taylor & Son.		7 25
"	" "	" " bit	"		5 00
"	Post office	" " egg	"		7 25
"	" "	" " nut	"		7 25
Glencoe	Public building	" " egg	McPherson & Clark		6 75
"	" "	" " nut	G. A. McAlpine		6 90
Goderich	" "	" " egg	H. I. A. MacEwan		7 25
"	" "	" " nut	"		7 25
Grimsby	Public building	Coal per ton—Ant., egg	J. W. Eaton & Son		6 45
"	"	" " nut	" "		6 70
Guelph	"	" " egg	The Kloepfer Coal Co.		6 75
Hamilton	Post office	" " "	Gillies-Guy Co.		5 85
"	"	" Bit.,	"		5 00
"	Weights and Measures	" Ant., egg	"		5 85
Hanover	Post Office	Fittings	The Can. Office and School Furniture Co., Ltd.	May 12, 1915.	1,750 00
Harriston	Public building	Coal per ton—Ant., furn	J. Howes		7 50
"	"	" " nut	"		7 50
Hawkesbury	"	" " furn	W. Wilson		7 75
Ingersoll	"	" " "	Scott & Daniels		7 60
"	"	" " pea	"		6 50
"	"	" Connel	"		7 60
Kenora	"	" Ant., egg	Cameron & Heap		9 20
Kincardine	"	" " furn	J. W. Wilson		6 70
"	"	" " nut	W. Burnside		6 95
Kingston	Custom house	" " egg	S. Anglin & Co		7 50
"	"	" " nut	"		7 50
"	Post office	" " egg	"		7 50
"	"	" " nut	"		7 50
"	Inland Revenue	" " egg	"		7 50
"	"	" " nut	"		7 50

Lakefield	Post office	Fittings	Walker Bin and Store Fixture Co., Ltd	April 7, 1915.	1,335 00
Leamington	Public building	Coal per ton—Ant., egg	D. Smith		7 00
"	"	" " nut	"		7 00
Lindsay	"	" " egg	Flavelles, Ltd		7 10
"	"	" " nut	"		7 25
Listowel	"	" " egg	R. G. Kemp & Sons		7 00
"	"	" " nut	" "		7 10
London	Custom house	" " furn	Thos. Patterson & Co		6 50
"	Post office	" " egg	"		6 55
"	Custom house	Electric wiring and fittings	Benson Wilcox Electric Company	Aug. 12, 1915.	1,450 00
"	Post office and Carling block annex	Electric wiring and fittings	" " "	Aug. 12, 1915.	2,825 00
Markham	Public building	Coal per ton—Ant., stove	Robt. Welsh		7 40
Midland	"	" " egg	The Sargeant Co		7 25
"	"	" " nut	"		7 50
Milton	"	" " egg	Blain & Hannant		7 25
"	"	" " nut	"		7 50
"	Post office	Fittings	Walker Bin and Store Fixture Co., Ltd	May 12, 1915.	1,150 00
Milverton	Public building	Coal per ton—Anth., egg	J. G. Hamilton		7 00
"	"	" " nut	"		7 00
"	Post office	Fittings	The Berlin Interior Hardwood Co., Ltd	April 12, 1915	1,100 00
Mitchell	Public building	Coal per ton—Anth., furn	R. J. Cook		6 70
"	"	" " nut	"		6 70
Mount Forest	"	" " furn	E. E. Broughton		7 25
"	"	" " nut	"		7 50
Napanee	"	" " stove	Chas. Stevens		7 50
"	"	" " nut	"		7 75
"	Drill hall	Steam Heating Plant	A. S. Allaster	May 1, 1915.	1,675 00
Newmarket	Public building	Coal per ton—Anth., egg	C. Forester		7 00
"	"	" " nut	"		7 00
Niagara	"	" " egg	W. E. Thomas		5 97
"	"	" " nut	"		6 22
North Bay	"	" " egg	North Bay Fuel Co		7 35
Norwich	"	" " "	Corbett & Connell		6 50
"	"	" " nut	"		6 50
"	Post office	Fittings	Walker Bin & Store Fixtures Co. Ltd	May 26, 1915.	1,650 00
Ontario	Post offices generally	Supply of fittings	The Collie Cockerill M'f'g. Co. Ltd	May 3, 1915.	1,200 00
"	Public buildings	Supply of 300 filing cabinets	Office Specialty M'f'g. Co. Ltd	Dec. 30, 1915.	Sched. of prices.
"	Post offices generally	Supply of Sorting Cases No. 1262 and No. 1256.	The Chas. Rogers & Sons Co. Ltd	Jan. 15, 1916.	264 00
"	" "	Supply of Sorting Cases No. 1259.	"	Jan. 15, 1916.	252 00
Orangeville	Public building	Coal per ton—Anth., egg	Office Specialty M'f'g. Co. Ltd	Jan. 15, 1916.	1,250 00
"	"	" " nut	E. E. Clark		6 75
Orillia	"	" " egg	"		7 00
"	"	" " nut	S. E. Carss L. Co		7 00
"	Customs	Fittings	"		7 00
Oshawa	Public building	Coal per ton—Anth., stove	The J. T. Shell Co. Ltd	April 9 1915.	979 00
"	"	" " nut	W. Merritt		7 25
Ottawa	Experimental farm	" " furn	"		7 25
"	"	" " egg	Leclaire & Co		6 75
			"		7 00

STATEMENT No. 1—Contracts let by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.—*Continued.*

Works.		Names of Contractors.	Date of Contract.	Amount.
	PUBLIC BUILDINGS—*Con.*			$ cts.
	Ontario—Continued.			
Ottawa	Experimental farm—Coal per ton—Auth., nut	Leclaire & Co.		7 25
"	" " " " stove	"		7 00
"	Interior Department—Steel cases	The Steel Equipment Co. Ltd.	April 27, 1915.	1,368 00
"	Militia and Defence—Metallic cases	Office Specialty M'f'g. Co. Ltd.	April 28, 1915.	1,249 00
"	" " " —Metallic fittings	The Steel Equipment Co. Ltd.	May 18, 1915.	410 00
"	Experimental Farm (Biological Laboratory)—Electric wiring and fittings	J. A. L. Ellacott	May 18, 1915.	425 00
"	Militia and Defence—Metallic wardrobe lockers	The Steel Equipment Co. Ltd	May 27, 1915.	620 00
"	Mines Branch—Metallic fittings	Office Specialty Manufacturing Co., Ltd.	June 7, 1915.	1,179 00
"	Public buildings—Supply of coal for 1915-16	John Heney & Son, Ltd.	June 11, 1915.	Sched. of prices.
"	Geodetic Survey, Interior Dept.—Steel filing cases	The Steel Equipment Co., Ltd.	July 2, 1915.	1,275 00
"	Privy Council—Filing cases	" " "	June 30, 1915.	1,200 00
"	Department of Agriculture—Filing cabinets	Office Specialty Manufacturing Co., Ltd.	July 8, 1915.	619 00
"	Experimental Farm, agricultural building.—Construction of.	W. Ashe	July 29, 1915.	5,300 00
"	(Record Room) Department of Public Works—Additional fittings	Office Specialty Manufacturing Co., Ltd.	July 8, 1915.	2,429 00
"	Victoria Museum—Partial removal of tower	Carlton Construction Co., Ltd.	Sept. 13, 1915.	13,990 00
"	Departmental buildings—Supply of tungsten lamps	The Canadian Tungsten Lamp Co., Ltd.	Sept. 24, 1915.	5,081 84
"	Government Printing Bureau—Motor generator, etc.	Canadian Westinghouse Co., Ltd.	Oct. 27, 1915.	9,934 00
"	(Record room) Interior Dept.—Metallic fittings	The Steel Equipment Co., Ltd.	Nov. 17, 1915.	770 00
"	Cereal and Agrostology bldg.—Construction of	Catheart & Webster.	Nov. 19, 1915.	11,232 00
"	Dominion buildings—Supply and maintenance of clock line service.	The Bell Telephone Co. of Canada (per annum) 5 years from September 19, 1910).	Dec. 10, 1915.	560 00
"	Customs building—Retaining wall and sidewalks	P. Lyall & Sons Construction Co., Ltd.	Dec. 16, 1915.	22,637 50
"	(Woods' building) Militia and Defence.—Metallic cases	The Steel Equipment Co., Ltd.	Dec. 17, 1915.	739 00
"	(Central Registry) Militia and Defence.—Filing cases	Office Specialty Manufacturing Co.	Dec. 20, 1915.	779 00
"	(Inspection room) Militia and Defence.—Two elevators	Otis Fenson Elevator Co., Ltd.	Dec. 28, 1915.	2,133 00
	Dept. of Agriculture—Metallic desk and book case	The Steel Equipment Co., Ltd.	Jan. 11 1916.	235 00
	(Draughting Room) Dept. of Marine and Fisheries.—Filing cases	The Capital Office Supply Co., Ltd.	Jan. 26, 1916.	265 00

"	Astronomical Observatory	Metallic cases	" " "	Jan. 26, 1916.	290 00
"	(Lands Branch) Dept. of the Interior.	Steel fittings	Office Specialty Manufacturing Co., Ltd	Jan. 31, 1916.	1,055 00
"	(Accountant's Branch) Dept. of Railways and Canals	Fittings	The Steel Equipment Co., Ltd	Jan. 31, 1916.	975 00
"	Printing Bureau	Electric freight elevator	The Turnbull Elevator Manufacturing Co., Ltd.	Jan. 31, 1916.	5,000 00
"	(Canadian building) Trade and Commerce.	Book stack	Office Specialty Manufacturing Co., Ltd,	Mar. 6, 1916.	319 00
"	Inland Revenue	Filing cabinets	" " "	Mar. 9, 1916.	245 00
"	Public buildings	Supply of ice for 1916-17, per 100 lb.	The Ottawa Artificial Ice Co.	Mar. 14, 1916.	20
"	(Engineers Branch) Dept. of Militia and Defence.	Three metal cases	Office Specialty Manufacturing Co., Ltd	Mar. 17, 1916.	465 00
"	(Lands Patent Branch) Dept. of the Interior.	Metallic cabinets	The Steel Equipment Co., Ltd.	Mar. 18, 1916.	775 00
"	Parliament buildings	Supply and delivery of fabricated materials for reconstruction.	The Dominion Bridge Co., Ltd	Mar. 30, 1916.	Sched. of prices.
"	(Woods building) Militia and Defence.	Metallic cupboards	Dennis Wire and Iron Works Co., Ltd	Mar. 17, 1916.	560 00
Owen Sound	Public building	Coal, per ton—Anth., egg	Davis Smith Malone Co.		6 45
Parkhill	"	" " stove	Wm. Leary.		7 00
"	"	" " nut	"		7 25
Paris	"	" " furn.	Paris C. & L. Co		6 75
"	"	" " nut	" "		6 75
Pembroke,	"	" " egg	Dunlop & Co.		8 20
"	"	" " nut	"		8 45
Peterborough	Post office	" " egg	H. B. Taylor		7 10
"	Custom-house	" " egg	J. E. A. Fitzgerald		7 10
"	"	" " stove	The Peterboro F. & T. Co.		7 00
Picton	Public building	" " egg	Hepburn Bros		7 25
"	"	" " stove	"		7 25
"	"	Coal per ton—Anth., nut	Hepburn Bros		7 50
Port Arthur	Immigration office	" " "	Thunder Bay L Company		7 75
"	Examining warehouse	" " egg	Whitehead Ltd		7 60
"	" "	" " nut	Thunder Bay L Company		7 75
"	Post office	" " egg	Whitehead Ltd		7 60
"	"	" " nut	Thunder Bay L Company		7 75
"	Customs Examining warehouse	Fittings	W. J. Trick Co. Ltd	Dec. 10, 1915.	3,997 00
Port Colborne	Public building	Coal per ton—Anth., egg	Geo. D. Carter		6 70
Port Hope	"	" " "	E. Brown & Company		7 65
"	"	" " nut	"		7 65
Port Perry	"	" " egg	C. L. Vickery		7 00
"	"	" " nut	"		7 25
Prescott	Custom house	" " egg	I. W. Plumb & Son		6 80
"	Post office	" " "	"		6 80
"	"	" " nut	"		7 05
Preston	Public building	" " egg	Jas. Gillies		6 70
"	"	" " nut	"		6 95
Renfrew	Post office	" " stove	J. Ward		8 00
"	"	" " nut	"		8 25
Sandwich	"	" " egg	E. Breault		7 45

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.—*Continued.*

Works			Names of Contractors.	Date of Contract.	Amount.
					$ cts.
PUBLIC BUILDINGS—*Continued.*					
Ontario—Continued.					
Sarnia	Public building	Coal per ton—Anth., egg	St. Clair I & C Company		6 95
"	"	" " nut	" "		6 95
Sault Ste. Marie	"	" " egg	Sault Ste Marie C. & W Company		7 45
Seaforth	"	" " egg	E. L. Box		7 50
Shelburne	"	" " egg	R. A Jelly		8 50
"	"	" " stove	"		8 50
Simcoe	"	Electric wiring, etc	The Simcoe Plumbing & Heating Company	Aug. 19, 1915.	413 00
Smiths Falls	"	Coal per ton—Anth., egg	Thos. Graham		7 50
"	"	" " nut	"		7 75
"	Post office	Rearrangement of fittings	The Berlin Interior Hardwood Co. Ltd	May 17, 1915.	2,070 00
Steelton	Public building	Coal per ton—Anth., egg	Sault Ste. Marie C & W Company		7 45
Stratford	"	" " "	Fiebig & Heagy		6 35
Strathroy	"	" " furn	R. M. Pincombe		7 00
"	"	" " nut	"		7 25
Sudbury	"	" " egg	Sudbury C & W Company		9 15
"	"	" " nut	" "		10 40
"	Post office, etc	Fittings	The J. T. Schell Company	May 5, 1915.	5,475 00
St. Catharines	Public building	Coal per ton—Anth., egg	John Laughlin & Company		7 00
St. Marys	"	" " furn	Dunseith & Thompson		7 00
"	"	" " nut	" "		7 25
St. Thomas	"	" " egg	Marlatt & Smith		6 25
Toronto	Custom house	" " grate	P. Burns & Co		6 50
"	"	" " nut	"		6 95
"	"	" Bit	"		4 50
"	Express building	" Anth., stove	"		6 75
"	"	" Bit	"		4 50
"	Examining warehouse	" Anth., grate	"		6 50
"	"	" Bit	"		4 50
"	General post office	" Anth., egg	"		6 75
"	"	" " nut	"		6 95
"	"	" Bit	"		4 50
"	Post office 52 Adelaide street	" Anth., egg	"		5 90
"	Postal station "C"	" " "	"		6 75
"	" "D"	" " "	"		6 75

"	"	"F"	"	" "	"		6 75
"	"	"F"	"	" nut	"		6 95
"	"	"G"	"	" egg	"		6 75
"	"	"G"	"	" nut	"		6 95
"	"	"G"	"	Bit	"		4 50
"	"	"K"	"	Anth., egg	"		6 75
"	"	"K"	"	" nut	"		6 95
"	Post office 22-34 Adelaide st		"	" egg	"		6 75
"	" "	"	"	Bit	"		4 50
"	Revenue office		"	"	"		4 50
"	"		"	Anth., egg	"		6 75
"	"		"	" nut	"		6 95
"	P.O. Garage		"	" egg	"		6 75
"	"		"	Bit	"		4 50
"	Immigration hospital		"	Anth., egg	"		6 75
"	"		"	" nut	"		6 95
"	59-69 Victoria St		"	" egg	"		6 75
"	"		"	Bit	"		4 50
"	Postal station "G"	Fittings			The Berlin Interior Hardwood Co., Ltd	July 27, 1915	2,189 00
"	(Union station) East Wing	Construction of			The Toronto Terminals Railway Company	Sept. 15, 1915	on certified progress estimates.
"	Temporary station "A"		"		W. Williamson	Jan. 26, 1916	21,774 00
"	Alterations and additions to Postal station "A"				Samuel Young	April 4, 1915	13,530 00
Trenton	Public building	Coal, per ton	Anth., furn		R. W. Powers & Son		7 50
Uxbridge	"	"	" egg		The Jones Hardware Co		7 25
"	"	"	" nut		" "		7 50
Walkerton	"	"	" egg		S. W. Vogan		6 25
Walkerville	"	"	" "		W. Woollatt & Son		7 25
"	"	"	" nut		" "		7 50
"	Post office	Fittings			The Berlin Office & Fixture Co. Ltd	Sept. 15, 1915	2,974 00
Waterloo	Public building	Coal, per ton	Anth., stove		W. Hogg		7 00
"	"	"	" "		M. B. Riddell		7 00
Welland	Public building	Coal, per ton	Anth., furn		O. W. Rice		7 00
Whitby	"	"	" nut		E. R. Blow		6 85
"	"	"	" egg		"		6 70
Wingham	"	"	" furn		Rae & Thompson		7 15
"	"	"	" nut		"		7 40
Woodstock	"	"	" egg		B. Blair		6 45
		Manitoba.					
Brandon	Experimental farm	Coal, per ton	Anth., stove		T. E. Elviss		11 25
"	" "	"	Bit		"		9 00
"	Immigration building	"	Souris		Barclay & O'Hara		4 25
"	" "	"	Anth., stove		T. E. Elviss		11 25
"	Post office	"	" "		"		11 25
"	"	"	Bit		Barclay & O'Hara		9 00
Carman	"	"	Anth., egg		Western Coal Co		10 45
"	"	"	" nut		"		10 45

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.—*Continued.*

Works.			Names of Contractors.	Date of Contract.	Amount.
PUBLIC BUILDINGS—*Continued.*					$ cts.
Manitoba.—Continued.					
Dauphin	Post office	Coal, per ton—Anth., egg	Western Coal Co		11 25
Emerson	"	" " stove	"		9 80
"	"	" Bit	Chas. Whitman		8 50
"	Immigration building	" Anthracite	Western Coal Co		9 80
Minnedosa	Public building	" Anth., egg	"		10 95
Morden	"	" " furn	The Monarch Coal Co		10 80
"	"	" Bit	"		9 10
Neepewa	Immigration building	" Anth., stove	S. Benson		11 55
"	" "	" " egg	"		11 55
Portage la Prairie	Public building	" " "	Western Coal Co		10 45
" "	"	" " nut	"		10 45
" "	"	" Bit	"		8 50
" "	Armoury	" Anth., furn	"		10 45
" "	Public building	Electric wiring and fittings	Houston & Co. Ltd	Jan. 11, 1916.	801 60
Selkirk	Post office	Coal, per ton—Anth., egg	Western Coal Co		10 25
Souris	Public building	" Bit	T. H. Patrick		7 85
"	"	" Anth., stove	D. Gilchrist		11 50
Stonewall	"	" " egg	The Winnipeg I & F. Co.		11 00
"	Post office	Fittings	The Berlin Office & Fixtures Co., Ltd.	May 1, 1915.	1,400 00
St. Boniface	Public building	Coal per, ton—Anth., egg	Western Coal Co		9 75
Virden	"	" " "	"		11 55
"	"	" Bit	"		9 00
"	Post office, etc	Fittings	The Berlin Interior Hardwood Co., Ltd.	April 6, 1915.	1,660 00
Winnipeg	Immigration Hall No. 1	Coal, per ton—Anth., egg	Western Coal Co		9 75
Winnipeg	Immigration Hall No. 2	" " egg	"		9 75
"	" Hospital No. 3	" " "	"		9 75
"	New post office	" " "	"		9 75
"	Old "	" " "	"		9 75
"	Examining warehouse	" Bit	Winnipeg S. & F. Co		6 75
"	Postal Station "B"	" Anth., egg	Western Coal Co		9 75

Saskatchewan.

Battleford (North)	Post office	Coal, per ton	Anth., egg	J. G. Hargrave & Co		12 55
" " "	"	"	Bit	McKenzie & Thayer		6 50
" " "	"	"	Anth., egg	J. G. Hargrave & Co		12 55
" " "	"	"	Bit	M. B. Mill		6 00
Biggar	Immigration office	"	"	Pembina Coal Co		6 25
Estevan	Post office	"	"	J. D. Munro		2 05
Gravelbourg	Immigration office	"	Anth., furn	Brazziel & Co		14 00
"	Post office	"	" "	"		14 00
"	"	"	Bit	"		9 50
Humboldt	"	"	Anth., egg	J. G. Hargrave & Co		12 30
Indian Head	Experimental farm	"	" "	James Conn		11 50
"	" "	"	Bit	Hunter, Cantalon & Co		8 50
"	Forest nursery	"	Anth., furn	James Conn		11 50
"	"	"	" stove	"		11 50
"	"	"	Bit	Hunter, Cantalon & Co		8 50
Kerrobert	Immigration office	"	"	Beaver Lumber Co		8 00
Lloydminster	" hall	"	"	John Spencer		4 50
"	Post office	"	"	"		4 50
Maple Creek	"	"	Anth., furn	A. A. Meneley		13 00
"	"	"	Bit	"		7 50
Melfort	"	"	"	Beaver Lumber Co		6 75
Moosejaw	"	"	Anth., egg	Wm. Hannah		10 00
"	"	"	" stove	"		10 25
"	Immigration building	"	Bit	"		7 45
"	" "	"	Anth	"		10 25
North Portal	" "	"	Bit	J. E. Dahor		3 75
Prince Albert	Public building	"	"	The Northern C. & C. Co		7 00
Regina	Post office	"	Anth., egg	Monarch L. Co		12 50
"	"	"	Bit	"		8 20
"	Dominion lands	"	Anth., egg	"		12 50
"	"	"	Bit	"		8 20
"	Immigration building	"	"	"		8 20
Rosthern	Experimental farm	"	Anth., egg	McDiarmid Lumber Co		13 50
"	" "	"	" nut	" "		13 50
"	" "	"	Bit	Pembina Coal Co		7 25
Saskatoon	Post office	"	Egg	R. J. Armstrong		12 50
"	Immigration building	"	Bit	Mackenzie & Thayer		6 50
"	" "	"	Anth., stove	R. J. Armstrong		12 50
"	Public building	Alterations to fittings		The J. T. Schell Co	Jan. 4, 1916	753 00
Scott	Experimental farm	Coal, per ton.	Anth., egg	Beaver Lumber Co		12 75
"	" "	"	Bit	" "		6 50
Swift Current	Post office	"	Anth., nut	J. G. Hargrave Co		12 65
Unity	Immigration building	"	Bit	Unity Lumber Co		6 00
Yorkton	Post office	"	Anth., egg	J. G. Hargrave Co		12 10
"	"	"	Bit	Yorkton Builders Supply Co		10 00
Wadena	Immigration building	"	Bit	Pembina Coal Co		7 50
Weyburn	Post office	"	Bit	Hunt & Porteous		7 25
Wilkie	Immigration building	"	Bit	Pembina Coal Co		7 00
"	" "	"	Anth., nut	Simpson Bros		13 50

STATEMENT No. 1—Contracts let by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.—*Continued.*

Works.			Names of Contractors.	Date of Contract.	Amount.
					$ cts.
HARBOURS AND RIVERS.					
Alberta.					
Athabaska Landing	Immigration office	Coal, per ton.—Bit.	Thos. Metcalfe		1 25
Bassano	Post office	" Anth., egg	Revelstoke Sawmill Co		9 00
"	"	" " nut	" "		8 50
"	"	Fittings	The Berlin Interior Hardwood Co., Ltd	Jan. 5, 1916	1,097 00
Calgary	Immigration shed	Coal, per ton.—Bit	F. W. Mapson & Co		5 25
"	"	" Anth., egg	Lott & Co		9 25
"	Examining warehouse	" Bit	F. W. Mapson & Co		5 25
"	" "	" Bit., Can	"		5 25
"	" "	Postal parcel fittings	The Riverside Lumber Co., Ltd	Nov. 22, 1915	1,200 00
"	" "	Fittings	The Berlin Interior Hardwood Co., Ltd	April 6, 1915	6,950 00
Castor	Immigration office	Coal, per ton.—Bit	A. D. McCormack		3 00
Edmonton	Immigration building	" Lignite	Edmonton Standard C. Co		2 95
"	Post office	" Bit	"		2 95
Edson	Immigration building	" Bit	Pembina Coal Co		5 00
Entwistle	" "	" Bit	"		3 75
Grande Prairie	" "	" Bit	S. H. Brown		11 00
Lacombe	Experimental farm	" Anth., nut	Revelstoke Sawmill Co		8 50
"	" "	" Bit	H. A. Day		4 25
"	" "	" Galt	"		7 00
Lethbridge	Post office	" Bit	Pony Express		4 45
"	New public building	" Galt	City Cartage Co		4 35
"	Experimental farm	" Bit	Pony Express		5 15
Macleod	Custom house	" Bit	R. H. Hilliard		6 50
Medecine Hat	Post office	Fittings	The Berlin Office and Fixture Co., Ltd	July 29, 1915	3,398 00
Red Deer	Public building	Coal, per ton.—Lignite	Hewson & Son		4 40
Strathcona	Immigration building	" Bit	Edmonton Standard Coal Co		2 95
"	Post office	" Bit	" "		2 95
"	Immigration hall	Repairs	H. Cuthbertson	May 4, 1915	545 65
Vermillion	Immigration office	Coal, per ton.—Bit	Alberta Western L. Co		6 00
"	Post office	" Bit	"		6 00
Viking	Immigration office	" Bit	Pembina Coal Co		6 00
"	Immigration hall	Repairs and painting	M. A. Bérubé	Sept. 16, 1915	545 00
Wainwright	Immigration office	Coal, per ton.—Bit	Imperial L. Co		6 50
Wetaskawin	Public building	" Bit	Revelstoke Sawmill Co		5 70

British Columbia.					
Little Saanich	Observatory building	Painting of dome	The Melrose Co., Ltd.	June 19, 1915.	855 00
Little Saanich (Victoria)	Observatory	Construction of	The McAlpine Robertson Cons. Co., Ltd.	June 24, 1915.	28,450 00
Little Saanich (Victoria)	Observers' residence	"	Parker & Grace	Sept. 25, 1915.	5,580 00
New Westminster	Public building	Electric elevator	Sloan & Harrison	Dec. 8, 1915.	3,300 00
Vanconver	Postal station "C"	Fittings	The Berlin Office and Fixture Co., Ltd.	Nov. 29, 1915.	2,462 00
Victoria	Dominion observatory	Construction of 66 ft. dome, etc.	The Warner & Swasey Co.	Oct. 12, 1915.	35,000 00
Prince Edward Island.					
Rocky Point (Charlottetown.)	Dredging	Class "B" p.c. yard	V. T. Bartram	June 29, 1915.	16.95
New Brunswick.					
Bathnrst	Dredging	Class "B" p.c. yard	Northern Dredging & Construction Co., Ltd.	Sept. 30, 1915.	0 30
Buctouche Beach	"	" "B" "	Felix Michaud	Aug. 3, 1915.	0 36
Grand Lake	"	" "B" "	L. W. Nickerson	Nov. 29, 1915.	0 14½
Lower Derby (S. W. Miramichi.)	"	" "B" "	Peter England	July 19, 1915.	0 36
St. John (West)	Extensions "A" and "B" construction of Shed "C"		Rhodes Curry Co.. Ltd	Nov. 2, 1915.	19,100 00
" "	Electric lighting system for Sheds "A," "B," "C," and "D"		John B. Jones jr.	" 11, 1915.	1,450 00
" "	Additional shed in rear of Shed No. 15	Construction of	Rhodes Curry Co., Ltd	" 17, 1915.	Proportionate to previous work.
Quebec.					
Beauport	Dredging	Class "B" p.c. yard	The W. J. Poupore Co., Ltd.	April 30, 1915.	0 30
Rimouski	Public Wharf	Snpply of lighting for... per day.	Le Crédit Mnnicipal Canadien de Chicoutini	May 6, 1915.	0 08
St. Charles River	Six (6) Slnice gates and walks.	Construction of	Dominion Bridge Co., Ltd	Aug. 9, 1915.	9,527 00
St. Maurice River	Dredging	Class "B" p.c. yard	F. C. Burns	May 14, 1915.	0 19½
Ontario.					
Belleville	Freight shed on Gov't wharf	Construction o	Conroy & Hickey	March 6, 1916.	4,700 00
Big Chaudiere Falls (French River.)	Steel gates, etc.	" f	Dominion Bridge Co., Ltd	Dec. 20, 1915.	28,224 00
Cataraqui River (Kingston.)	Two (2) steel bridges and one (1) bascule bridge	"	The Hamilton Bridge Works Co., Ltd.	May 22, 1915.	114,700 00
Fort William (Kamistikwia and Mission Rivers.)	Dredging	Class "B" p.c. yard	Great Lakes Dredging Co., Ltd.	June 26, 1915.	0 10¾
Fort William (Mission Rivers.)	Extension to wharves		The Thunder Bay Contracting Co., Ltd.	Aug. 23, 1915.	Sched. of prices.
Fort William (Kaministikwia Riv.)	Dredging	Class "B" p.c. yard	Great Lakes Dredging Co., Ltd.	Sept. 13, 1915.	0 25

STATEMENT No. 1—Contracts let by the Department of Public Works of Canada from April 1, 1915, to March 31, 1916.—*Continued.*

Works.		Names of Contractors.	Date of Contract.	Amount.
	Ontario—Continued.			
Goat Island	Class "A" p.c. yard	The Soo Dredging & Construction Co., Ltd.	May 4, 1915.	2 90
(Little Current.)	" "B" p.c. yard			0 30
Toronto	" "B" p.c. yard	R. Weddell Company	July 2, 1915.	0 11
(Eastern Gap.)				
	British Columbia.			
Steveston	British Columbia. Section 2 of			
(Fraser River.)	Jetty. Construction of	Marsh, Hutton, Powers Co., Ltd	June 4, 1915.	Sched. of prices.
Vancouver	Government wharf. 17,300 c. yds of filling. p.c. yard	Barrett & McQueen Co., Ltd	March 13, 1916	0 65
	VESSELS DREDGES AND PLANT.			
Supply of brooms and brushes for departmental dredging plant for Ontario and Quebec for 1915-1916.		The Boeck Bros. Co., Ltd.	May 21, 1915.	Sched. of prices.
Supply of chains for departmental dredging plant for Ontaria and Quebec for 1915-1916.		Lewis Bros. Ltd.	" 21, 1915.	Sched. of prices.
Supply of hardware for departmental dredging plant for Ontario and Quebec for 1915-16.		The Builders Supply Company	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Ontario and Quebec, 1915-16.		Goodyear Tire and Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Ontario and Quebec. 1915-16.		Dunlop Tire and Rubber Goods Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Ontario and Quebec, 1915-16.		Canadian Consolidated Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Ontario and Quebec, 1915-16.		Gutta Percha and Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Ontario and Quebec, 1915 16.		Lytle Smith & Company, Ltd	" 21, 1915.	Sched. of prices.
Supply of oils and greases for departmental dredging plant, Ontario and Quebec, 1915-16.		The Imperial Oil Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of packing for departmental dredging plant, Ontario and Quebec, 1915-16.		Dunlop Tire and Rubber Goods Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of paints and paint oils, etc., for departmental dredging plant. Ontario and Quebec, 1915-16.		The Ottawa Paint Works	" 21, 1915.	Sched. of prices.
Supply of manilla rope for departmental dredging plant, Ontario and Quebec, 1915-16.		Independent Cordage Co., Ltd	" 21. 1915.	Sched. of prices.
Supply of wire rope for departmental dredging plant for Ontario and Quebec, 1915-16.		The Dominion Wire Rope Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of steam pipes, valves and fittings for departmental dredging plant for Ontario and Quebec, 1915-16.		Samuel Fisher (Registered)	" 21, 1915.	Sched. of prices.
Supply of steam pipes, valves and fittings for departmental dredging plant for Ontario and Quebec, 1915-16.		The Canadian Fairbanks Morse Co., Ltd.	" 21, 1915.	Sched. of prices.
Supply of brooms and brushes, for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.		Thompson & Sutherland, Ltd	" 21, 1915.	Sched. of prices.
Supply of chains for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.		J. Splane & Company	" 21, 1915.	Sched. of prices.

Supply of hardware for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	Sumner & Company	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	Dunlop Tire and Rubber Goods Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	Gutta Percha and Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for New-Brunswick and Nova Scotia, 1915-16.	Canadian Consolidated Rubber Co , Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for New-Brunswick and Nova Scotia, 1915-16.	Goodyear Tire and Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for New-Brunswick and Nova Scotia, 1915-16.	Lytle Smith & Company	" 21, 1915.	Sched. of prices.
Supply of oils and greases for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	The Imperial Oil Company, Ltd	" 21, 1915.	Sched. of prices.
Supply of packing for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	Dunlop Tire and Rubber Goods Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of paints and paint oils for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	Brandram-Henderson, Ltd	" 21, 1915.	Sched. of prices.
Supply of manilla rope for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	Independent Cordage Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of wire rope for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	The Dominion Wire Rope Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of steam pipes, valves and fittings for departmental dredging plant for New Brunswick and Nova Scotia, 1915-16.	Sumner Company	" 21, 1915.	Sched. of prices.
Supply of hardware for departmental dredging plant for Prince Edward Island, 1915-16.	The Rogers Hardware Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Prince Edward Island, 1915-16	Goodyear Tire and Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Prince Edward Island, 1915-16	Gutta Percha and Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Prince Edward Island, 1915-16	Canadian Consolidated Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Prince Edward Island, 1915-16	Dunlop Tire and Rubber Goods Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Prince Edward Island, 1915-16	Lytle Smith & Company	" 21, 1915.	Sched. of prices.
Supply of oils and greases for departmental dredging plant for Prince Edward Island, 1915-16.	The Imperial Oil Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of packing for departmental dredging plant for Prince Edward Island, 1915-16.	Dunlop Tire and Rubber Goods Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of paints and paint oils for departmental dredging plant for Prince Edward Island, 1915-16.	Brandram Henderson, Ltd	" 21, 1915.	Sched. of prices.
Supply of manilla rope for departmental dredging plant for Prince Edward Island, 1915-16.	Independent Cordage Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of wire rope for departmental dredging plant for Prince Edward Island, 1915-16.	The Rogers Hardware Co., Ltd	" 21, 1915	Sched. of prices.
Supply of steam pipes, valves and fittings for departmental dredging plant for Prince Edward Island, 1915-16.	The Rogers Hardware Co., Ltd	" 21, 1915.	Sched. of prices.
Supply of brooms and brushes for departmental dredging plant for Manitoba, 1915-16.	Wood Valance Leggatt, Ltd	" 21, 1915.	Sched. of prices.
Supply of chains for departmental dredging plant for Manitoba, 1915-16	Wood Valance Leggatt, Ltd	" 21, 1915.	Sched. of prices.
Supply of hardware for departmental dredging plant for Manitoba, 1915-16	Wood Valance Leggatt, Ltd	" 21, 1915.	Sched. of prices.
Supply of hose for departmental dredging plant for Manitoba, 1915-16	Dunlop Tire and Rubber Goods Co., Ltd	" 21, 1915	Sched. of prices.
Supply of hose for departmental dredging plant for Manitoba for 1915-16.	Gutta Percha & Rubber Co., Ltd	" 21, 1915.	Sched. of prices.
" " " " "	Goodyear Tire & Rubber Co., Ltd	" 21, 1915.	" "
" " " " "	Canadian Consolidated Rubber Co., Ltd	" 21, 1915.	" "
" " " " "	Lytle Smith & Co	" 21, 1915.	" "
" oils and greases " " "	The Imperial Oil Co., Ltd	" 21, 1915.	" "
" packing for " " " "	Dunlop Tire & Rubber Goods Co., Ltd	" 21, 1915.	" "

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.—*Continued.*

Works.	Names of Contractors.	Date of Contracts.	Amount.
Vessels, Dredges and Plant—Continued.			$ cts.
Supply of paints and paint oils for departmental dredging plant for Manitoba for 1915-16.	Scarfe & Company	May 21, 1915	Sched. of prices.
" manilla rope " " " " "	Independent Cordage Co., Ltd	" 21, 1915.	" "
" wire rope " " " " "	The Dominion Wire Rope Co., Ltd	" 21, 1915.	" "
" steam pipes, valves and fittings for " " "	The Dominion Equipment & Supply Co., Ltd.	" 21, 1915.	" "
" brooms and brushes for departmental dredging plant for Vancouver, B.C. for 1915-16.	Wood Valance Leggatt Ltd	" 21, 1915.	" "
Supply of chains for departmental dredging plant for Vancouver, B.C., for 1915-16.	Simson Balkwill & Co., Ltd	" 21, 1915.	" "
" hose " " " " "	Canadian Consolidated Rubber Co., Ltd.	" 21, 1915.	" "
" hardware " " " " "	Wood Valance Leggatt Ltd	" 21, 1915.	" "
" oils and greases for " " " "	The Imperial Oil Co., Ltd	" 21, 1915.	" "
" packing for " " " "	Canadian Consolidated Rubber Co., Ltd.	" 21, 1915.	" "
" paints and paint oils for departmental dredging plant for Vancouver, B.C, for 1915-16.	R. C. Jamieson & Co., Ltd	" 21. 1815.	" "
Supply of manilla rope for departmental dredging plant for Vancouver, B.C. for 1915-16.	The Independent Cordage Co., Ltd	" 21, 1915.	" "
" wire rope " " " " "	R. V. Winch & Co.	" 21, 1915.	" "
" steam pipes, valves and fittings for departmental dredging plant for Vancouver, B.C., for 1915-16.	B.C. Waterworks Supplies Ltd	" 21, 1915.	" "
Supply of steel castings for departmental dredging plant for Vancouver, B.C., for 1915-16.	Vancouver Engineering Works Ltd	" 21, 1915.	" "
" brooms and brushes for departmental dredging plant for Victoria, B.C., for 1915-16.	The Hickman Tye Hardware Co., Ltd	" 21, 1915.	" "
Supply of coal for departmental dredging plant for Victoria, B.C. for 1915-16	Kirk & Company	" 21, 1915.	" "
" hardware for " " "	P. McQuade & Son, Ltd.	" 21, 1915.	" "
" hose for " " "	Canadian Consolidated Rubber Co., Ltd.	" 21, 1915.	" "
" oils and greases for " " "	The Imperial Oil Co., Ltd	" 21, 1915.	" "
" packing for " " "	P. McQuade & Son, Ltd	" 21, 1915.	" "
" paints and paint oils for departmental dredging plant for Victoria, B.C. for 1915-16.	British America Paint Co., Ltd.	" 21, 1915.	" "
Supply of manilla rope for departmental dredging plant for Victoria, B.C., for 1915-16.	Independent Cordage Co., Ltd	" 21, 1915.	" "
" wire rope for " " "	P. McQuade & Son, Ltd	" 21, 1915.	" "
" steam pipes, valves and fittings for departmental dredging plant for Victoria, B.C., for 1915-16.	E. G. Prior & Co., Ltd.	" 21, 1915.	" "
Supply of brooms and brushes for departmental dredging plant for New Westminster, B.C., for 1915-16.	T. J. Trapp & Co., Ltd.	" 21, 1915.	" "
Supply of hardware for departmental dredging plant for New Westminster, B.C., for 1915-16.	T. J. Trapp & Co., Ltd.	" 21, 1915.	" "
Supply of hose for departmental dredging plant for New Westminster, B.C., for 1915-16.	T. J. Trapp & Co., Ltd.	" 21, 1915.	" "

Supply of oils and grease for departmental dredging plant for New Westminster, B.C., for 1915-16.	Imperial Oil Co., Ltd	" 21, 1915.	"	"
Supply of packing for departmental dredging plant for New Westminster, B.C., for 1915-16.	Dunlop Tire & Rubber Goods Co., Ltd.	" 21, 1915.	"	"
Supply of paints and paint oils for departmental dredging plant for New Westminster, B.C., for 1915-16.	T. J. Trapp & Co., Ltd	" 21, 1915.	"	"
Supply of manilla rope for departmental dredging plant for New Westminster, B.C., for 1915-16.	Independent Cordage Co., Ltd	" 21, 1915.	"	"
Supply of steam pipes, valves and fittings for departmental dredging plant for New Westminster, for 1615-16.	T. J. Trapp & Co., Ltd	" 21, 1915.	"	"
Construction of new buckets, tumblers, etc., Dredge "Mastadon"	The Jenckes Machine Co., Ltd	June 30, 1915.	$	35,295 00
Supply of 400 tons of coal for departmental dredging plant for Victoria Island Ship Yard, Ottawa, Ont. 1915-16, per ton.	Ottawa Transportrtion Co., Ltd	July 20, 1915.		4 25
Supply of 200 tons of coal for departmental dredging plant for Quyon, Que., for 1915-1916, per ton.	James Sowards Coal Co	July 20, 1915.		4 44
Supply of 260 tons of coal for departmental dredging plant for Buckingham Spur, Que., for 1915-1916, per ton.	Geo. Hall Coal Co., of Canada, Ltd	" 20, 1915.		4 55
Supply of 60 tons of coal for departmental dredging plant for Alymer, Que., for 1915-1916, per ton.	Andrew Baile	" 21, 1915.		4 42
Supply of 100 tons of coal for departmental dredging plant for Chambly, Que., for 1915-1916, per ton.	"	" 21, 1915.		4 30
Supply of 260 tons of coal for departmental dredging plant for Grandes Piles, Que., for 1915-1916, per ton.	"	" 21, 1915.		4 90
Supply of 100 tons of coal for departmental dredging plant for St. Johns, Que., for 1915-1916, per ton.	"	" 21, 1915.		4 22
Supply of 2,000 tons of coal for departmental dredging plant for Montreal, Que., for 1915-1916, per ton.	"	" 21, 1915.		3 50
Supply of 390 tons of coal for departmental dredging plant for Haileybury, Ont., for 1915-1916, per ton.	"	" 21, 1915.		5 52
Supply of 820 tons of coal for departmental dredging plant for Hamilton, Ont., for 1915-1916, per ton.	Gillies-Guy, Ltd	" 21, 1915.		4 15
Supply of 400 tons of coal for departmental dredging plant for Liverpool, N.S., for 1915-1916, per ton.	Intercolonial Coal Mining Co., Ltd	" 21, 1915.		5 40
Supply of 225 tons of coal for departmental dredging plant for Sydney, N.S., for 1915-1916, per ton.	Dominion Coal Co., Ltd	" 22, 1915.		3 50
Supply of 225 tons of coal for departmental dredging plant for Cheticamp, N.S., for 1915-1916, per ton.	A. C. Aucoin	" 23, 1915.		4 85
Supply of 400 tons of coal for departmental dredging plant for Lockeport, N.S., for 1915-1916, per ton.	Southern Salvage Co., Ltd	" 24, 1915.		5 50
Supply of 950 tons of coal for departmental dredging plant for Campbellton, N.B., for 1915-1916, per ton.	The Colonial Coal Co., Ltd	" 24, 1915.		5 40
Supply of 225 tons of coal for departmental dredging plant for Mulgrave, N.B., for 1915-1916, per ton.	" "	" 24, 1915.		4 05
Supply of 100 tons of coal for departmental dredging plant for Alberton, P.E.I., for 1915-1916, per ton.	Buntain, Bell & Co	" 24, 1915.		2 75
Supply of 50 tons of coal for departmental dredging plant for Cardigan, P.E.I., for 1915-1916, per ton.	" "	" 24, 1915.		2 75
Supply for 150 tons of coal for departmental dredging plant for Charlottetown, P.E.I., for 1915-1916, per ton.	" "	" 24, 1915.		4 50

STATEMENT No. 1.—Contracts let by the Department of Public Works of Canada from April 1, 1915, to March 31, 1916.—*Concluded.*

Works.	Names of Contractors.	Date of Contract.	Amount.
Vessels, Dredges and Plant—Concluded.			$ cts.
Supply of 50 tons of coal for departmental dredging plant for Georgetown, P.E.I., for 1915-1916, per ton.	Buntain, Bell & Co.	" 24, 1915.	2 75
Supply of 75 tons of coal for departmental dredging plant for Malpeque, P.E.I., for 1915-1916, per ton.	" "	" 24, 1915.	2 75
Supply of 50 tons of coal for departmental dredging plant for Summerside, P.E.I., for 1915-1916, per ton.	" "	" 24, 1915.	2 75
Supply of 50 tons of coal for departmental dredging plant for Souris, P.E.I., for 1915-1916, per ton.	" "	" 24, 1915.	2 75
Supply of 75 tons of coal for departmental dredging plant for Tignish, P.E.I., for 1915-1916, per ton.	" "	" 24, 1915.	2 75
Supply of 1,625 tons of coal for departmental dredging plant for St. John, N.B., for 1915-1916, per ton.	Dominion Coal Co., Ltd.	" 28, 1915.	3 79
Supply of 125 tons of coal for departmental dredging plant for Canso, N.S., for 1915-1916, per ton.	F. P. Elkin	" 28, 1915.	5 65
Supply of 1,600 tons of coal for departmental dredging plant for Selkirk, Man., for 1915-1916, per ton.	The Winnipeg Supply & Fuel Co., Ltd.	Aug. 3, 1915.	6 13
Supply of 525 tons of coal for departmental dredging plant for Buctouche, N.B., for 1915-1916, per ton.	Felix Michaud	" 3, 1915.	5 20
Supply of 1,900 tons of coal for departmental dredging plant for Pictou, N.S., for 1915-1916, per ton.	S. Gannon & W. A. Weir	" 9, 1915.	4 35
Supply of 400 tons of coal for departmental dredging plant for Winnipegosis, Man., for 1915-1916, per ton.	The Dominion Equipment & Supply Co., Ltd.	" 16, 1915.	6 45
Supply of 200 tons of coal for departmental dredging plant for Chicoutimi, Que., for 1915-1916, per ton.	The Canadian Import Co., Ltd.	" 20, 1915.	5 85
Supply of 200 tons of coal for departmental dredging plant for Quebec, Que., for 1915-1916, per ton.	" " "	" 20, 1915.	4 45
Supply of 200 tons of coal for departmental dredging plant for Rimouski, Que., for 1915-1916, per ton.	" " "	" 20, 1915.	5 60
Supply of 1,130 tons of coal for departmental dredging plant for Three Rivers, Que., for 1915-1916, per ton.	" " "	" 20, 1915.	4 02
Supply of 160 tons of coal for departmental dredging plant for Verdun, Que., for 1915-1916, per ton.	" " "	" 20, 1915.	5 40
Supply of 100 tons of coal for departmental dredging plant for Cache Bay, Ont., for 1915-1916, per ton.	F. P. Weaver Coal Co., Ltd.	Sept. 13, 1915.	5 23
Supply of 260 tons of coal for departmental dredging plant for Jeannettes Creek, Ont., for 1915-1916, per ton.	" "	" 13, 1915.	3 88

Supply of 80 tons of coal for departmental dredging for North Bay, Ont., for 1915-1916, per ton.	"	" 13, 1915.	4 58
Supply of 460 tons of coal for departmental dredging plant for Port Burwell, Ont., for 1915-1916, per ton.	"	" 13, 1915.	3 38
Supply of 160 tons of coal for departmental dredging plant for Port Stanley, Ont., for 1915-1916, per ton.	"	" 13, 1915.	2 83
Supply of 80 tons of coal for departmental dredging plant for Sturgeon Falls, Ont., for 1915-1916, per ton.	"	" 13, 1915.	5 23
Supply of 300 tons of coal for departmental dredging plant for Gagetown, N.B., for 1915-1916, per ton.	J. D. Mitchell	" 15, 1915.	6 50
Supply of 300 tons of coal for departmental dredging plant for Oromocto, N.B., for 1915-1916, per ton.	"	" 15, 1915.	6 50
Supply of 100 tons of coal for departmental dredging plant for Amherst, N.S., for 1915-1916, per ton.	W. A. Fillmore	" 27, 1915.	4 10
Renewal of boiler on Dredge "P.W.D. No. 2 St. Lawrence"	Union Foundry & Machine Works, Ltd	Nov. 10, 1915.	10,650 00
Construction of Marine Boiler for Dredge "P.W.D. No. 116"	Polson Iron Works	Jan. 13, 1916.	3,989 00
Supply of 250 cords of firewood for Dredge "No. III" per cord	Asselin & Fils	Jan. 29, 1916.	4 95
Supply of pins and bushings for Dredges "P.W.D. No. 2" and "P.W.D. No. 7"	Canadian Steel Foundries, Ltd	Mar. 3, 1916.	1,896 00

STATEMENT No. 2

PROPERTIES PURCHASED OR SOLD.

No. 2—STATEMENT of properties purchased or sold by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916.

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what purpose.	Area.	Price.
1915.						$ cts.
April 1	P. S. Clancy, *et ux*	His Majesty	Sale of land at Mulgrave, N.S.	Site for wharf		1 00
" 7	A. J. Martin, *et ux*	"	Sale of south ½ of lot No. 23 east side of Kent street, Ottawa, Ont.	Site for new departmental building.		18,000 00
" 8	Notice of Expropriation		Expropriation of part of lot No. 3, at Portland, Ont.	Right of way to wharf	580 sq. feet	
" 10	Alexander Barnett	His Majesty	Sale of portion of block "F" at West Kootenay, B.C.	Site for wharf	0·28 acre	
" 12	The Municipal Corporation of the Town of Smith's Falls.	"	Grant of lots Nos. 470-471-472 473-480-481-482-483-484-485-486-487-493-491-496 at Smith's Falls, Ont.	Site for armoury		Free grant.
" 14	Provincial Government of Ontario.	Dominion Gov't.	Transfer of lot PP86 at Minaki (Gun Lake,) Ont.	Site for wharf	0·55 acre	Free transfer.
" 16	Corporation Episcopal Catholique Romaine de Nicolet.	His Majesty	Sale of parts of lots Nos. 225 and 366 at St. Jean Baptiste de Nicolet, Que.	"	14,609 feet	450 00
" 17	Notice of Expropriation		Expropriated land at Shad Bay, N.S.	Site for public wharf	0·23 acre	
" 21	Louisa Taylor	His Majesty	Sale of land at Stewiacke, N.S.	" "	0·018 acre	1 00
" 23	Edward J. McFeely	"	Sale of lots Nos. 6, 7, 8, 9, 10, 11, 12 and 13 and water lots in front of same at Vancouver, B.C.	For harbour improvements.		461,640 00
" 23	Provincial Government of New Brunswick.	Dominion Gov't.	Transfer of old wharf site and approach at Chocolate Cove, N.B.	For wharf		Free transfer.
" 23	Provincial Government of New Brunswick.	"	Transfer of wharf property and approach at Fairhaven (Deer Island), N.B.	For wharf		Free transfer.
May 1	Certificate of Title		Sale of lot No. 11, block 14, Meota, Sask.	Site for public building		2,000 00
" 1	Ernest Frisby	His Majesty	Certificate of ownership *re* lots Nos. 20, 21, 22 and 23 west side of May St., also lot No. 9 on west side of the Boulevard at New Liskeard, Ont.	Temiskaming reservoir dam.		
" 4	Certificate of Ownership	"	Sale of parcel of land No. 5744 at Fort Frances, Ont.	Site for wharf	1¼ acre	
" 4	W. A. Doane	"	Release in *re* wharf and property at Barrington Head, N.S.	Site for wharf		173 11
" 11	Notice of Expropriation		Expropriated land at Canning, N.S.	Site for public building	3,690 sq. feet	
" 14	J. Mawhinney, *et ux*	His Majesty	Sale of a piece of land at Chance Harbour, N.B.	Right of way to break water	0·58 acre	250 00

"	14. . .	J. A. Kirkpatrick, *et ux*...	"	Sale of land between Halifax and Truro, N.S. (Shubenecadie).	Site for public building...	..... 1,500 00
"	14	Certificate of Title.....	....	Sale of lot No. 10, Block 63 at Calgary, Alta.	Ass't Receiver General building.	....
"	15.....	A. H. Holland	His Majesty....	Sale of part of lot No. 20 on south side of Vittoria street, Ottawa, Ont.	Site for new departmental buildings.	..... 28,066 50 plus int. 1,738 49
"	16.....	Notice of Expropriation..	.. ..	Expropriated land at Petit Rocher, N.B....	Right of way to break-water.	1·03 acres .....
"	18	Province of Prince Edward Island.	Dominion Gov't.	Transfer of piers and wharves at Clifton, Bay View, Wood Island, Chappel Point, Montague, Stevens, Sturgeon and Cape Traverse, P.E.I.	For Government purposes.	.... Free transfer.
"	18.....	Notice of Expropriation ...	.....	Expropriated land at Fox Point, N.S... ..	Right of way to break-water.	0·09 acre.....
"	19. .. .	The Home Pattern Co. Incorporated.	His Majesty ...	Release in *re* expropriated land at Toronto, Ont.	For new general post office.	.... 3,750 00
"	19.....	J. A. D. Holbrook	"	Sale of lots Nos. 5 and 6, north side of Rear street, Ottawa, Ont.	Site for new departmental buildings.	24-4/5 pchs..... 45,250 00
"	20	S. L. C. Graham, *et al*.....	"	Sale of lots Nos. 1 and 2, north side of Rear street, Ottawa, Ont.	Site for new departmental buildings.	.. .. 19,525 00
"	20.....	The Adams Shoe Co., Ltd.	"	Release in *re* expropriated land at Toronto, Ont.	Site for new general post office.	.... 3,553 42
"	20.	Certificate of Title.....	"	Sale of two parcels of subdivision 14, sec. 27, tp. 23, Revelstoke, B.C.	Site for wharf..... .	. ...
"	21	S. J. McLean, *et ux*,. . .	"	Sale of lot No. 4 and part of lot No. 5, north side of Rear street, Ottawa, Ont.	Site for new departmental buildings.	20-1/5 pchs..... 20,000 00
"	25 ...	J. C. Brennan.....	"	Sale of north ½ of lot No. 36 and north ½ of east ½ of lot No. 37 north side of Vittoria street, Ottawa, Ont.	Site for new departmental buildings.	..... 42,000 00 plus int. 3,976 70
"	26	Art. Loiselle	"	Release for damages and all claims *re* flooding of lots Nos. 18 and 19, Ville Marie, Que.	Temiskaming reservoir dam.	... . 147 50
"	26.	La Corporation du College d'Ottawa.	"	Release for damages and all claims *re* flooding of lot No. 467 at Ville Marie, Que.	Temiskaming reservoir dam.	.... 124 00
"	26.....	La Communauté des Pères Oblats de Marie Immaculée.	"	Release for damages and all claims *re* flooding of lot No. 591 at Ville Marie, Que.	" "	..... . 653 00
"	26. ...	Amable Fleury..... . .	"	Release for damages and all claims *re* flooding of lots Nos. 465 and 466 at Ville Marie, Que.	" "	.... 182 50
"	26.	Maxime Loiselle..... ..	"	Release for damages and all claims *re* flooding of lot No. 19 at Ville Marie, Que.	" "	.... 682 00
"	26.....	F. Desrochers	"	Release for damages and all claims *re* flooding of lot No. 16 at Ville Marie, Que.	" "	.... 150 00
"	27. ...	K. H. Devlin & vir.....	"	Sale of lots Nos. 8, 9 and 10, north side of Rear street, Ottawa, Ont.	Site for new departmental buildings.	.... 56,000 00
"	28... .	J. G. Hensley (executor to Helen Nixon Estate, *et al*)	"	Sale of part of water lot in front of lot No. 33, Leith, Ont.	Site for wharf.....	2¾ acres..... ... 1 00
June	1.....	Provincial Government of New Brunswick.	Dominion Govt.	Transfer of wharf and approach at Summerville, N.B.	Government purposes.....	... . Free transfer.
"	4.....	His Majesty.....	H. F. Hodson...	Bill of sale of gasolene launch *Eugene*.....	Toronto harbour improvements.	..... 3,790 00

No. 2.—STATEMENT of properties purchased or sold by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916—*Continued.*

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what purpose.	Area.	Price.
1915.						$ cts.
June 8	Municipal Corporation of Town of Sturgeon Falls.	His Majesty	Sale of parts of lots Nos. 65 and 116 at Sturgeon Falls, Ont.	Wharf extension		1 00
" 10	His Majesty	Winnipeg Fish Co. Ltd.	Grant of parts of lots Nos. 12 and 13 and south ½ of lot No. 14, Selkirk, Man.	Private enterprise		Free grant.
" 11	"	The Imperial Fish Co. Ltd.	Grant of part of lot No. 15 and north ½ of lot No. 14 at Selkirk, Man.	" "		" "
" 11	"	The Northern Fish Co. Ltd.	Grant of part of lot No. 16 at Selkirk, Man.	" "		" "
" 11	F. J. Wilson, *et ux.*	His Majesty	Sale of lot No. 34, north side of Victoria street, Ottawa, Ont.	Site for new departmental buildings.		55,344 56
" 23	Certificate of Title	"	Sale of west ½ of lots Nos. 13, 14, 15 and 16, Block 43, Vancouver, B.C.	Site for drill hall		
" 28	Department of Militia and Defence.	Dept. of Public Works.	Transfer of part of military reserve at Barriefield (Kingston), Ont.	Roadway and wharf over Cataraqui river.		Free transfer.
" 29	W. J. Evans	His Majesty	Certificate of Ownership *re* parts of lot No. 4 and Sect. 5, Tp. of Harris, Ont.	Temiskaming reservoir dam.	71·25 acres	
" 30	H. B. Patterson, *et ux.*	"	Sale of land at Rainy Cove, N.S.	Site for wharf	0·52 acres	125 00
July 1	His Majesty	Rev. J. A. Lamarche.	Sale of timber left after construction of wharf at L'Assomption, Que.	Private enterprise		125 00
" 5	Frances Grant	His Majesty	Sale of lot A4 north side of Wellington St., Ottawa, Ont.	Site for new departmental buildings.		14,575.00 plus int. 2,176.73.
" 6	Terry, *et al*	"	Sale of lots Nos. 55 and 56, Sect. 26, Esquimalt District, B.C.	Graving dock		
" 10	J. M. Lafortune	"	Release for damages and all claims *re* flooding of lot No. 17 at Ville Marie, Que.	Temiskaming reservoir dam.		85 00
" 14	Dept. of Public Works	Dept of Railways & Canals.	Tranfer of part of Carrier Laine property at Levis, Que.	For improvements for the I.C. Ry.		Free transfer.
" 15	His Majesty	Hendrich, *et al*	Certificate of judgment *re* expropriated land in connection with Halifax Northern Postal Station.			6,200 00
" 21	Notice of Abandonment		Abandonment of a piece of land at Stellarton, N.S.		500 sq. ft.	
" 23	Department of the Interior.	Dept. of Public Works.	Transfer of part of subdivision 3 of Sect. 19, Tp. 61, R. 12, west of 3rd meridian, Province of Saskatchewan.	For telegraph service	25·90 acres	Free transfer.

"	25	Chas. Gætz, *et ux*	His Majesty	Sale of land at Seaforth, Ont	Site for breakwater	1·3 acre	75 00
"	29	A. A. Fournier *et ux*	"	Sale of lot No. 4, north side of Wellington street, and lots Nos. 19 and 20 east side of Vittoria street, Ottawa, Ont.	Site for new departmental buildings.		189,124 00
July	31	Isaac Mason, *et al*	His Majesty	Sale of land at Tancook, N.S	Rights of way to breakwater.	25 x 199 feet	25 00
Aug.	2	Provincial Government of British Columbia.	Dominion Government.	Transfer of lot No. 1, block 4, Nootka townsite and foreshore, B.C.	Wharf		Free transfer.
"	2	" "	"	Transfer of lot No. 1552, Clayoquot Dist., B.C.	"		"
"	9	Certificate of title		Sale of lot No. 16, block 8, Lake Saskatoon, Alta.	Telegraph building		
"	21	Atlantic, Quebec & Western Railway and the Trustees of A. W. Carpenter's estate.	His Majesty	Transfer and assignment of right of way, approach and water lot at Sandy Beach, Que.	Government deep water wharf.		1 00
Sept.	2	Notice of expropriation		Expropriated land at Spry Bay, N.S	Right of way to wharf	0·28 acre	
"	4	His Majesty	Toronto Terminals Ry. Co.	Sale of Custom Examining Warehouse reserving land at Toronto, Ont.	Private enterprise		110,000 00
"	6	Luc Vautour, *et ux*	His Majesty	Sale of land at Lower St. Louis, N.B	Wharf	0·04 acre	50 00
"	17	His Majesty	Municipal Corporation of the City of Toronto	Sale of a strip of land, south side of Front street, Toronto, Ont.	Private enterprise		100,000 00
"	18	Notice of expropriation		Expropriated land at Mosher's Bay, N.S	Breakwater	0·20 acre	
"	20	J. Morton, *et ux*	His Majesty	Sale of land at Weldford, N.B	Wharf	½ acre	50 00
"	25	C. Charters & J. Leggett	"	Release for damages *re* premises No. 319 University street, Montreal, Que.			900 00
"	29	S. Grey, *et ux*	"	Grant of a piece of land at St. Charles, N.B.	Wharf	0·12 acre	Free grant.
"	29	J. D. Robichaud, *et ux*	"	Grant of a piece of land at St. Charles, N.B.	Wharf	0·11 acre	"
"	29	His Majesty	R. Brewder	Sale of hull of Dredge "No. 105"			100 00
Oct.	6	"	H. Williamson	Grant of lots Nos. 1 and 2, block 8, Clayoquot, B.C.	Telegraph service	Exchange for other lots.	
"	6	Provincial Government of New Brunswick.	Dominion Government.	Transfer of wharf site at Long's Point, N.B	Government purposes	35,840 ft	Free transfer.
"	6	" "	"	" " Millidgeville, N.B	"	16,910 ft	"
"	20	Jeannette Baker	His Majesty	Sale of part of lot A4, north side of Wellington street, Ottawa, Ont.	New departmental buildings.	3,465 ft	43,000 00
"	21	Alex. Moore, *et ux*	"	Sale of lot No. 4, west side of William street, Palmerston, Ont.	Site for public building	0·06 acre	1,300 00
"	22	Neil Logan	"	Certificate of ownership in *re* parts of lots Nos. 10 and 11, 6th Con. Tp. of Harris, Ont.	Temiskaming reservoir dam.	157·75 acres	
Nov.	1	M. A. Rice, *et al*	"	Sale of land and wharf property at Bear River, N.S.	Public building site	180 x 200 ft	2,200 00
"	1	N. Carmichael, *et ux*	"	Sale of land at Plaster Mines, N.S	Wharf	0·6 acre	25 00
"	3	Annie Fraser, *et al*	"	Sale of part of lot No. 190, R. 1, Matane, Que.	Wharf approach	6,840 sq. ft	300 00
"	3	Notice of expropriation		Expropriated land at Mushaboon, N.S	Right of way to wharf	0·35 acre	
"	6	Government of British Columbia.	Dominion Government.	Transfer of wharf at Stewart, B.C			Free transfer.

No. 2.—STATEMENT of propertties purchased or sold by the Department of Public Works of Canada, from April 1, 1915, to March 31, 1916—*Continued.*

Date of Conveyance.	Vendors.	Purchasers.	Description of Property.	For what purpose.	Area.	Price.
1915.						$ cts;
Nov. 12.	J. L. McDougald.	His Majesty	Sale of north ½ of lot No. 1, Con. 1, Tp. of Harris, Ont.	Timiskaming reservoir dam.	11·25 acres.	281 25
" 12.	A. J. Fisher	"	Release for all claims, etc., *re* flooding of lands at Township of Dymond, Ont.	" "		2,015 00
" 13.	J. J. McNally, *et ux.*	"	Conveyance of land, etc., at Summerside, P.E.I.	Site for public building		600 00
" 19.	J. R. McGregor, *et ux.*	"	Sale of part of lot No. 6, Water street, Gore Bay, Ont.	"	71 x 120 ft	1,800 00
" 22.	J. R. Young, *et ux.*	"	Sale of land at Parish of Saumarez, N.B.	Tracadie breakwater	12·11 acres.	428 57
" 24.	J. P. Coulson, *et al.*	"	Sale of part of lot No. 9, Con. "K", Island No 2, formerly Tp. of Neebing Additional, Fort William, Ont.	McKellar river improvements.	2·02 acres	6,060 00
					plus interest 2 years	742 14
" 21.	Augustus Mosher, *et al.*	"	Sale of land at Mosher's Bay, N.S.	Breakwater.	0·20 acre.	1 00
Dec. 6	Certificate of title		Sale of lot No. 54, Sect. 26, Esquimalt Dist., B.C.	Graving dock.		12,250 00
" 17.	Gordon Runckle	His Majesty	Sale of parts of lots Nos. 21 and 22 of lot No. 3 and lots Nos. 5, 6, 7, 8, 9, 23 and 24 of lot No. 4 and 29 of lot No. 5, all in block 15, North Vancouver, B.C.	Capilano river dam.		2 476 00
" 18	W. H. Chase, *et ux.*	"	Release *re* wharf property and water lot at Wolfville, N.S.	Harbour improvements	0·59 acre.	3,200 00
" 22	Notice of expropriation		Expropriation of part of lot No. 514, River St. Charles, Quebec, Que.	Lock and dam	30,082 ft.	
" 22.	" " "		Expropriation of part of lot No. 513, River St. Charles, Quebec, Que.	" "	295,652 ft.	
" 22.	" " "		Expropriation of part of lot No. 560, River St. Charles, Quebec, Que.	" "	1,863,599 ft.	
" 29	M. Foley.	His Majesty	Sale of lot No. 2239, and all rights in lot No. 2240, St. Peter's Ward, Quebec, Que.	Post office extension.	1,997 ft.	18,500 00
" 31	Notice of expropriation		Expropriation of land at St. Michel de Vaudreuil, Que.	Wharf at Grahams	8,672 ft.	
1916.						
Jan. 11	Odilon David	His Majesty	Sale of part of lot No. 1925, St. Henry Ward, Montreal, Que.	Site for public building	49 ft. 3 in.	259 00
" 17.	Antoine Langlois	"	Sale of part of lot No. 2237, Quebec, Que	Central post office	449 sq. ft.	1,000 00

"	22	J. A. Clark, *et ux*	"	Sale of water lot at Mulgrave, N.S.	Wharf		200 00
"	21	Geo. W. Chambers	"	Sale of part of lot No. 7, Block 13, Fort McMurray, Alta.	Telegraph office		500 00
"	28	His Majesty	M. H. Foley	Sale of building at Longue Pointe, Mingan, Que.	Private enterprise		500 00
"	28	Government of British Columbia.	Dominion Government.	Transfer of parcel of land at Dodge Cove, Prince Rupert, B.C.		2·74 acres	Free transfer.
Feb.	24	His Majesty	Municipal council of the corporation of the city of Brantford.	Sale of lot No. 20, Dalhousie street, Brantford, Ont.	Private enterprise		25,100 00
"	29	Chas. MacMillan, *et al*	His Majesty	Sale of part of lot No. 5, Grenville, Que.	Interprovincial bridge	0·45 acre	225 00
Mar.	10	J. Butterworth	"	Sale of part of lot No. 39, north side of Victoria street, Ottawa, Ont.	New departmental buildings.		24,145 00
"	13	Provincial Government of Quebec.	Dominion Government.	Sale of part of bed of Lake Kipawa, Que	Gordon creek dam	4·75 acres	20 00
"	14	Nova Scotia Steel and Coal Co., Ltd.	His Majesty	Sale of parcels of land at Cantley Point, East River, N.S.	East river improvements	8·8 acres	1 00
"	14	Eastern Car Co., Ltd.	"	Sale of land at Cantley Point, East River, N.S.	" " "	2 acres	1 00
"	15	Thomas Macdonald, *et al*	"	Sale of land at French River, N.S.	Breakwater	1·16 acre	25 00
"	18	T. D. Archibald	"	Sale of land at Cow Bay, Port Morien, N.S.	"		25,000 00
"	25	Webb & Bradburn	"	Release *re* expropriated land at Fort William, Ont.	McKellar river improvements.		14,122 39
"	31	Temiskaming and Northern Ont. Ry. Commission.	"	Transfer of land, 1st Con., Tp. of Dymond, Dist. of Nipissing, Ont.	Wharf		

STATEMENT No. 3

PROPERTY LEASED

No. 3—STATEMENT of Properties leased to and from the Department of Public Works of Canada from April 1, 1915 March 31, 1916.

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1915.						$ cts.
April 1	Allan & Fleming	His Majesty	Lease of two rooms, No. 130 Wellington street, Ottawa, Ont.	Inspector of surveys	3 yrs. from Apr. 20, 1915.	$90 per m.
" 7	Sophie Decoste	"	Lease of premises No. 116 Letourneux street, Maisonneuve, Que.	Post office	1 yr. from May 1, 1915.	$25 per m.
" 7	Richelieu & Ontario Navigation Co.	"	Lease of four rooms, in "R. and O. Building," Quebec.	Supt. of pilots	1 yr. from May 1, 1915.	$70 per m.
" 7	J. S. McLennan	"	Lease of room No. 5 in "Post Building," Sydney, N.S.	Marine agent	3 yrs. from May 1, 1915.	$180 per an.
" 13	J. E. Annable	"	Lease of rooms Nos. 14, 15, 16 and 17 in building north-east corner of Ward and Victoria streets, Nelson, B.C.	Dist. Engr., P. W. Dept.	1 yr. from Apr. 13, 1915.	$50 per m.
" 14	W. J. Southman	"	Lease of three rooms, on 3rd floor, of "Herald Building," Calgary, Alta.	Railway commission	1 yr. from Apr. 1, 1915.	$145 per m.
" 15	Canadian Pacific Ry. Co.	"	Permission to lay water and gas pipe to Detention Shed, Vancouver (Burrard Inlet), B.C.	Government purposes	During pleasure.	Free.
" 20	Julie Gougeon	"	Lease of first floor of building No. 19, Centre Ward, Montreal, Que.	Government purposes	12 mos. fr. May 1, 1915.	$1,250 per an.
" 22	W. J. Boyd	"	Lease of part of 2nd floor of "Boyd Building," Winnipeg, Man.	Railway commission	1 yr. from June 1, 1915.	$1,830 per an.
" 26	W. Huckvale & S. T. Hooper.	"	Lease of office No. 306 in building on lots Nos. 23 and 24, Block 14, Medicine Hat Alta.	Immigration purposes	1 yr. from June 1, 1915.	$28 per m.
" 30	Capital Storage Co., Ltd.	"	Lease of top floor of "Capital Building," Ottawa, Ont.	Medical Service (M. & D.)	2 yrs. from April 17, 1915.	$1,520 per m.
May 1	J. O. Giroux	"	Lease of room on lot No. 1, Block "C" Girouard, Alta.	Immigration purposes	12 months from June 1, 1915.	$25 per m.
" 5	Mrs. G. U. Tremblay	"	Lease of office in building, corner St. Barnard and Church streets, Lacolle Jct., Que.	Immigration Inspector	1 yr. from May 1, 1915.	$96 per m.
" 11	Capital Office Supply Co., Ltd.	"	Lease of premises No. 126 Queen street, Ottawa, Ont.	Government purposes	From Oct. 1, 1914 to April 30, 1916.	$75 per m.
" 12	La Banque Nationale	"	Lease of rooms Nos. 4, 5, 6, 7 and 8, in building on Rideau street, Ottawa, Ont.	Officer commanding internment operation, M. & D.	From May 1, 1915 to end of war.	$80.25 per m.
" 12	Prince Albert Masonic Temple Co., Ltd	"	Lease of main office and store room in basement of building at Prince Albert, Sask.	Forestry Branch, Interior Dept.	1 yr. from May 1, 1915.	$125 per m.

" 12	Dept. of Railways and Canals.	"	Privilege to lay and maintain water pipe on property at Hampton, N.B.	.....	During pleasure from May 1, 1915.	$25 per an.
" 20	His Majesty	Canadian Pacific Ry. Co.	Permission to occupy certain land at Gimli, Man.	Private enterprise, "Area 0·068 acre".	During pleasure.	$1 per an.
" 21	C. J. Booth & J. E. B. Holbrook.	His Majesty	Lease of 2,500 sq. ft., on 4th floor of "Booth Building," Ottawa, Ont.	War purchasing Commission, Militia and Defence	From occupation to Nov. 1, 1918	$2,500 per an.
" 22	R. L. & R. Blackburn	"	Lease of room in basement of "Union Bank Building," Ottawa, Ont.	Interior Dept	From occupation to August 21, 1915.	$1,040 per an.
" 25	The Masonic Temple Co., Ltd.	"	Lease of part of basement of "Masonic Temple Building," Metcalfe street, Ottawa, Ont.	Commission Conservation.	From occupation to November 15, 1918.	$636.75 per an.
" 25	J. Robb	"	Lease of three rooms in building at Salmon Arm, B.C.	Chief Fire Ranger	From June 1, 1915, to such time as may be required.	$12 per m.
" 26	The Bank of Nova Scotia.	"	Lease of rooms Nos. 1 and 2 on 2nd floor of building on northern side of Water street, Windsor, N.S.	Government purposes	1 yr. from June 30, 1915.	$225 per an.
June 1	Catharine Mathewson.	"	Lease of front room in building No. 3 on Johnston street, Kingston, Ont.	Immigration Office	1 yr. from June 1, 1915.	$180 per an.
" 5	The Commsrs. of Transcontinental Railway.	"	Lease of right of way to wharf at Minaki, Green Lake, Ont.	Right of way to wharf.	During pleasure.	$1 per an.
" 14	The J. A. Westman Agency Ltd.	"	Lease of two rooms in "Westman Chambers, Regina, Sask.	"Inland Revenue Dept.	From June 1, '15, (from month to month).	$30 per m.
" 24	Julie Gougeon	"	Lease of west ½ of basement of property No. 19, and room No. 2, Centre Ward, Montreal, Que.	Carpenter's shop and storage.	1 yr. from May 1, 1915.	$55 per m.
" 30	The Two Macs Ltd	"	Lease of 1st and 2nd floors in "Stephen Building," Ottawa, Ont.	Interior Dept	5 yrs. from occupation.	$3,479 per an.
" 30	His Majesty	Municipal Council of Tp. of Watt	Lease of wharf at Windermere, Ont.	.....	3 yrs. from occupation.	$50 per an.
July 10	B. E. Rothwell.	His Majesty	Lease of room in building on lot No. 18, Block 7, Swan River, Man.	Immigration purposes	12 months from Sept. 6, 1915	$15 per m.
" 12	G. A. Graham & J. T. Horne.	"	Lease of room and vault in "Graham Horne Building," Fort William, Ont.	Dist. Engr., P. W. Dept.	3 yrs. from Aug. 1, 1915.	$75 per m.
" 13	La Cie Artistique et Financiere d'Asbestos, Ltee.	"	Lease of room in building at Asbestos, Que.	Post office	1 yr. fr. Apr. 5, 1915 and thereafter from year to year.	$300 per an.
" 15	Royal Bank of Canada	"	Lease of rooms Nos. 1, 2, 3, 4, 7, 8 and 9 in building, corner Sparks and Metcalfe, streets, Ottawa, Ont.	Dist. Engr., P. W. Dept.	From occupation to Mar. 18, 1920	$2,913.30 per an.
" 24	J. J. Garland	His Majesty	Lease of building on Tupper street, Portage la Prairie, Man.	Customs Department	3 yrs. from Apl. 8, 1915.	$35 per m.
26	Hiram Robinson	"	Lease of the whole of "Robinson's building,", Ottawa, Ont.	Government purposes	3 yrs. from Sept. 1, 1915.	$15,200 per an.

No. 3—STATEMENT of Properties leased to and from the Department of Public Works of Canada from April 1, 1915 to March 31, 1916—*Continued.*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what purpose.	Duration of Lease.	Rental.
1915.						
July 29	Jackson Clarke & Johns	His Majesty	Lease of two rooms on west part of lot No. 6 and east part of lot No. 5, Block D, Cobourg, Ont.	Immigration inspector	1 yr. from Oct. 1, 1915.	$170 per an.
Aug. 11	R. L. & R. Blackburn	"	Lease of room No. 408 and with adjoining "L" "Union Bank building," Ottawa, Ont.	Interior Department	From occupation to July 16, 1918	$431 per an.
" 11	R. L. & R. Blackburn	"	Lease of room in basement of "Union Bank building," Ottawa, Ont.	" "	2 yrs. from Aug. 21, 1915.	$1,040 per an.
Sept. 2	R. L. Blackburn	"	Lease of three top floors in building corner Sussex and Rideau streets, Ottawa, Ont.	Customs Department	1 yr. from occupation.	$50 per annum per foot.
" 7	J. H. Cameron & A. M. Johnstone.	"	Lease of rooms "G" & "H" in building, Saskatoon, Sask.	Inspector of Weight and Measures.	1 yr. from Nov. 11, 1915.	$60 per mo.
" 15	The Toronto Terminals R'y. Co., Ltd.	"	Lease of parts of lots Nos. 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14, Block A and lanes, Toronto, Ont.	Government purposes	21 yrs. from July 1, 1914.	$17,000 per an.
" 22	His Majesty	The corporation of the city of Winnipeg.	Lease of part of property, Rover avenue, Winnipeg, Man.	Suction pipe	During pleasure.	$1 per annum.
Oct. 1	The Sir H. N. Bate Realty Corporation Ltd.	His Majesty	Lease of Suite No. 6, "Aylmer Annex," Ottawa, Ont.	Militia and Defence	1 yr. from Oct. 1, 1915.	$648 per an.
" 1	The Sir H. N. Bate Realty Corporation Ltd.	"	Lease of Suite No. 7, "Aylmer Annex," Ottawa, Ont.	" "	1 yr. from Oct. 1, 1915.	$360 per an.
" 1	J. S. McLennan	"	Lease of rooms Nos. 3 and 4 in "Post building," Sydney, N.S.	Inspector of Fisheries	1 yr. from Oct. 1, 1915.	$360 per an.
" 9	J. B. Lamb & W. A. Lamb	"	Lease of premises Nos. 317, 319 and 321 in building on Queen street, Ottawa, Ont.	Inland Revenue Dept.	1 yr. from June 1, 1916 and thereaft'r from year to year.	$2,660 per an.
" 12	Wilson Bros	"	Lease of premises cor. 3rd avenue and 22nd street, Saskatoon, Sask.	Dominion Land Offices	1 yr. from Oct. 1, 1915.	$200 per m.
" 20	W. A. Brady	"	Lease of ground floor of building on lot No. 17, block 4, Reston, Man.	Post Office	1 yr. from Aug. 15, 1915.	$300 per an.
" 28	A. A. Aubin	"	Lease of ground floor of building at Sturgeon Falls, Ont.	Post Office	5 yrs. from Nov. 1, 1915.	$900 per an.
Nov. 2	R. L. & R. Blackburn	"	Lease of room No. 414 in "Union Bank building," Ottawa, Ont.	Interior Department	1 yr. from Nov. 9, 1915.	$371 per an.

" 2.	The J. A. Westman Agencies Ltd.	"	Lease of part of ground floor of building on 12th avenue, Regina, Sask.	Weights and Measures	1 yr. from Nov. 1, 1915.	$100 per month renewable.
" 3.	The Quebec R'y. Light Heat & Power Co. Ltd.	"	Lease of rooms Nos. 500, 501, 502 and 503, in building cor. St. Joseph and Crown streets, Quebec, Que.	Dist. Engr. P. W. D	6 mos. from Mch. 1, 1916.	$187.50 per m.
" 5.	W. N. Birks, J. H. Birks & G. W. Birks.	"	Lease of rooms Nos. 614, 615, 616, 617 and 618, in "Birks building," Vancouver, B.C.	Public Works Deparment	1 yr. from Dec. 1, 1915.	$1,296 per an.
" 6	J. H. Lavallée	"	Lease of part of house on Main street, St. Felix de Valois, Que.	Post Office	1 yr. from Feb. 23, 1916.	$125 per an. renewable.
" 8.	Mrs. E. A. Pearson	"	Lease of basement, ground floor and 1st floor of "Imperial building," Ottawa, Ont.	Interior Department	3 yrs. from Jan. 1, 1916.	$5,400 per an.
" 8.	Mrs. E. A. Pearson	"	Lease of two top floors of "Imperial building," Ottawa, Ont.	" "	From Oct. 1, 1915 to Jan. 1, 1919.	$2,500 per an.
" 9.	C. W. Cooper & W. A. Cooper.	"	Lease of part of building cor. Portage avenue and Aubrey street, Winnipeg, Man.	Postal station "D"	1 yr. from Apl. 1, 1916.	$1,600 per an.
" 12.	His Majesty	Montreal Tramways Co.	Lease of small tool house on "Carslake Hotel Property," Montreal, Que.		During pleasure.	$5 per month.
" 18.	D. M. Finnie & W. D. Morris.	His Majesty	Lease of premises No. 128 Wellington street, Ottawa, Ont.	R. N. W. M. Police	2 yrs. from Nov. 20, 1915.	$4,000 per an.
" 20.	J. H. L. Fairweather	"	Lease of office and vault in premises No. 20, Princess street, St. John, N.B.	Naval Transport offices	From Nov. 25, 1915 to May 1, 1916.	$100 for whole period.
" 23.	Sir Redmond P. Roblin	"	Lease of premises No. 103 Osborne street, Winnipeg, Man.	Postal station "C"	1 yr. from Feb. 1, 1916.	$1,500 per an.
" 23.	Le Comptoir Mobilier Franco Canadien	"	Lease of Nos. 117 and 119, Craig street West, Montreal, Que.	Post Office	2 yrs. from occupation.	$8,000 per an. renewable.
" 24.	L. A. Osment	"	Lease of 2nd floor and part of 1st floor of building, Main street, Indian Head, Sask.	Forestry Branch	From occupation to Sept. 1, 1916.	$43 per month.
" 29.	Hector Perrin	"	Lease of building adjoining P.O. at Verdun, Que.	Letter Carriers	2 yrs. from occupation.	$300 per an. renewable.
Dec. 6.	A. Galbraith	"	Lease of two stores at Swift Current, Sask.	Interior Department	1 year from occupation.	$100 per m.
" 6.	J. A. Yeager	"	Lease of part of building on lots Nos. 18 & 19, Swift Current, Sask.	Post office purposes	1 yr. from Nov. 30, 1915.	$105 renewable. per m.
" 11.	Chester Thompson	"	Lease of ground floor of building at Saskatoon, Sask.	Customs Department	1 yr. from Dec. 12, 1915.	$350 per m.
" 13.	Miss M. White	"	Lease of three rooms, etc., No. 23 St. Louis street, Quebec, Que.	Archives Department	1 yr. from Apl. 20, 1916.	$30 per m.
" 15.	City of Moose Jaw	"	Lease of Nos. 28 and 29, Block 127, Moose Jaw, Sask.	Immigration Hall	1 yr. from Apl. 15, 1916.	$100 per an.
" 16	Patrick Labelle	"	Lease of Garage Building, York street, Ottawa, Ont.	Printing and Stationery	From August 1, 1915, to Jan. 2, 1919.	$2,448 per an.
" 16.	Robert Simpson Co., Ltd.	"	Lease of part of ground floor of building, Regina, Sask.	Post Office	From year to yr. from occup.	$100 per an.
" 20.	C. W. Fredericks	"	Lease of half of 1st floor of building, Peace River, Alta.	Post Office	1 yr. from Nov. 1, 1915.	$360 per an.
" 21.	J. O. Patterson	"	Lease of part of building at Grande Prairie, Alta.	Immigration purposes	1 yr. from Jan. 1, 1916.	$65 per m.

No. 3—STATEMENT of Properties leased to and from the Department of Public Works of Canada from April 1, 1915 to March 31, 1916.—*Concluded.*

Date of Lease.	Lessors.	Lessees.	Description of Property.	For what Purpose.	Duration of Lease.	Rental.
1915.						
Dec. 24. ...	His Majesty	Neil Logan.	Lease of parts of Lots Nos. 10 and 11, 6th Con., Tp. of Harris, Ont.	Private enterprise.....	10 yrs. from Dec. 24, 1915.	$50 per an.
" 25.....	H. H. Buxton	His Majesty....	Lease of premises on lots 8, 9 and 10, block 7 at Deloraine, Man.	Immigration purposes....	1 yr. from Apl. 1, 1916.	$300 per an.
" 27.....	Canadian Bank of Commerce.	"	Lease of rooms Nos. 1, 4 and 5 on 2nd floor of building at Revelstoke, B.C.	Interior Department.... .	1 yr. from Feb. 1, 1916.	$60 per m.
" 27..... .	Canadian Bank of Commerce.	"	Lease of rooms Nos. 2 and 3 on 2nd floor of building at Revelstoke, B.C.	Interior Department....	1 yr. from Dec. 16, 1915.	$40 per m.
1916.						
Jan. 10..... .	J. T. Ostell.....	"	Lease of rooms Nos. 4, 5, 6 and 7, in "Duluth Building," Montreal, Que.	Archives....	1 yr. from May 1, 1915.	$1,080 per an. (renewable).
" 13..... .	Government of Canada....	Lanzon Engineering Co., Ltd	Lease of part of Carrier Laine property, Levis, Que.	Private enterprise.....	30 yrs. from May 1, 1915.	$3000 per an. for 1st 10 yrs. and $5000 per an. for last 20 yrs.
" 15	Etienne Levesque...	His Majesty....	Lease of building at Mont Joli, Que....	Post Office.....	2 yrs. from Jan. 15, 1916.	$300 per an.
" 18.....	The School District of Virden No. 144.	"	Lease of building at Virden, Man.....	Immigration purposes.	1 yr. from March 15, 1916.	$250 per an.
" 18.....	W. J. Boyd.....	"	Lease of office No. 406 in "Boyd Building," Winnipeg, Man.	Archives.....	1 yr. from March 31, 1916.	$47.50 per m.
" 20.....	Bank of Toronto.....	"	Lease of four rooms and vault on 2nd floor of building at Kingston, Ont.	Engineers.....	6 mos. from May 1, 1916.	$180 for whole period.
" 28.	Odile Lavoie....	"	Lease of part of building No. 116, Letourneux street, Maisonneuve, Que.	Postal Station "M".....	1 yr. from May 1, 1916.	$25 per m.
Feb. 1.....	Catharine Matthewson....	"	Lease of room No. 3, Johnson street, Kingston, Ont.	Immigration purposes.	1 yr. from June 1, 1916.	$180 per an.
" 12.....	James Hills.....	" . ..	Lease of part of building on lot No. 1, Block 11, Alberni, B.C.	Post Office.....	2 yrs. from Apl. 1, 1916.	$180 per an.
" 18..	His Majesty..	Alphon. Moreau.	Lease of part of lot No. 307, St. Romuald d'Etchemin Que.	Private enterprise.	During pleasure from May 1, '16	$10 per m.
" 22	The Ashbury College Co., Ltd.	His Majesty....	Lease of premises No. 140 Argyle Avenue, Ottawa, Ont.	House of Commons Restaurant.	1 yr. from occupation.	$2000 per an.

" 24.	His Majesty	A. A. Fournier, Ltd.	Lease of premises on lot No. 4, Wellington street, and the ground and cellar floors of "Bishop's Building," Ottawa, Ont.	Private enterprise	2 yrs. from Feb. 1, 1916.	$6000 per an.
" 25.	Ryan, Raymond, Moodie, *et al.*	His Maiesty	Lease of lots Nos. 17 to 20, Block 52, Calgary, Alta.	Post Office	3 yrs. from Oct. 23, 1915.	$7,500 per an.
Mar. 2	Capital Office Supply Co., Ltd.	"	Lease of premises No. 126, south side of Queen street., Ottawa, Ont.	Stationery Branch (Interior Department.)	From Oct. 1, '14 to Apl. 30, '16.	$75 per m.
" 10	Frank Jarman	"	Lease of two floors and basement of Nos. 326 and 328 Queen street, Ottawa, Ont.	Patents Branch	3 yrs. from Apl. 1, 1916.	$130 per m.
" 17	Melita Lodge No. 20, I. O. O. F.	"	Lease of part of building at Melita, Man.	Post Office	1 yr. from March 1, 1916.	$266 per an.
" 18	J. S. Bergeron	"	Lease of part of lot No. 103, St. John street, Quebec, Que.	Public Works Dept.	1 yr. from May 1, 1916.	$325 per an.
" 20	J. B. Dnford & W. G. Charleson.	"	Lease of 1st and 2nd floors of building No. 113 Rideau street, Ottawa. Ont.	Militia and Defence	2 yrs. from Feb. 20, 1916.	$7,053.60 per an.
" 27	W. R. Stroud	"	Lease of two flats in Building, Rideau street, Ottawa, Ont.	Militia and Defence	1 yr. from Feb. 29, 1916.	$1,677.00 per an.
" 28	Cordelia Blache	"	Lease of part of building, No. 101, St. Catherine street, East, Montreal, Que.	Postal Station "N"	1 yr. from May 1, 1916.	$1,680 per an.
" 28	Quebec Buildings, Ltd	"	Lease of five rooms in "Quebec Bank Building," Ottawa, Ont.	Department of Railways and Canals.	1 yr. from May 1, 1916.	$1,200 per an.
" 28	City of Montreal	Dominion Government.	Permission to construct and maintain vault and ash hoist under sidewalk.	Examining Warehouse	During subsist. of agreement.	$1,685.80
" 29.	W. J. Southam	His Majesty.	Lease of rooms Nos. 310 and 311 in "Herald Building," Calgary, Alta.	Railway Commission	1 yr. from Apl. 1, 1916.	$105 per m.

LIST

OF SOME OF THE

ACTS OF PARLIAMENT

PASSED AT THE SESSION OF 1916

HAVING REFERENCE TO THE

DEPARTMENT OF PUBLIC WORKS, OR WORKS UNDER ITS CHARGE.

List of some of the Public Acts of the Parliament of the Dominion of Canada, passed at the Sixth Session of the Twelfth Parliament, begun and holden at Ottawa, on the Twelfth day of January, 1916, and closed by Prorogation on the Eighteenth day of May, 1916, and having reference to the Public Works Department or works under its charge (6-7 George V) and Orders of the Governor General in Council, having force of law.

Subject.	Full Title of the Statute.	Chapters	Page in Statute Book.
Sums granted to His Majesty for the financial years ending respectively the 31st day of March, 1916, and the 31st day of March, 1917, and the purpose for which they are granted.	An Act for granting to His Majesty certain sums of money for the public service of the financial years ending respectively the 31st March, 1916, and the 31st March, 1917.	1 & 29	3-5-17-157-163 Schedules A.B.C. (Appropriation Act.)

N.B.—By proclamation dated the 14th day of May, 1915, section 16A of the rules and regulations for the management and working of the Dry Dock at Levis, Quebec, was amended. Vide *Canada Gazette*, vol. xlix, p. 291.

By proclamation dated the 2nd of March, 1916, under the provisions of chapter 40 R.S.C., 1906, and chapter 102, 51 Vict., the tariff of tolls which the Upper Ottawa Improvement Company, Limited, of Ottawa, proposed to levy for the use of their works during the season of 1916, was approved. Vide *Canada Gazette*, vol. xlix, p. 3035.

By proclamation of the 3rd of March, 1916, the tariff of tolls which the Rouge Boom Company propose to levy for the use of their works during the season of 1916, was approved. Vide *Canada Gazette*, vol. xlix, p. 3031.

Department of Public Works,
Ottawa, August 1, 1916.

J. A. CHASSE,
Law Clerk.

THE NATIONAL GALLERY

REPORT

FOR THE FISCAL YEAR ENDED MARCH 31, 1916

THE NATIONAL GALLERY OF CANADA.

THE NATIONAL GALLERY OF CANADA—ANNUAL REPORT OF THE TRUSTEES, 1915-16.

The fiscal year of 1915-16 has been an eventful one to the National gallery. Faced with an annual grant curtailed, owing to the war, from $100,000 to $25,000, out of which the cost of administration must be paid as well as the price of any works of art purchased, the trustees felt that their main efforts must be directed towards upholding the cause of art in Canada, from which the effects of the war had withdrawn much of the support it was slowly beginning to receive. In pursuance of this policy, the trustees continued their purchases of Canadian works of art as in former years, and allowed the effects of the financial stringency to fall upon the purchase of the works of foreign artists. In spite of adverse conditions, and the absence of some of the younger artists at the front, the exhibitions of Canadian art, during the year, showed a marked improvement in quality, and the trustees have much pleasure in recording the purchase of a number of Canadian works of art of as high a quality as almost any ever before produced.

The National Gallery Annual Travelling Scholarship of $1,000 was judged for the second year by the committee of the Royal Canadian Academy and was awarded with the trustees' concurrence to Miss Dorothy Stevens, 2 Spadina Gardens, Toronto.

Loan exhibitions of pictures from the National gallery were sent to the art gallery of Hamilton, the Winnipeg Museum of Fine Arts and the Library and Art Union, Sherbrooke, Que. This comprised the second successive exhibitions held by Hamilton and Winnipeg and the first by Sherbrooke. Each exhibition has been an unqualified success. The loan exhibitions continue to be an important feature of the work of the trustees and the number of applications for them prove that public interest is being awakened and that an increasing desire to see and study good pictures is forthcoming.

On February 3, 1916, the Parliament buildings were burnt down and the immediate occupation of the Victoria museum by the Canadian Government took away from the National gallery the whole of its available exhibition galleries, and left only the directors' offices and certain indispensible storerooms and workshops.

The attendance at the National gallery up to the time of the fire was satisfactory, totalling for the nine recorded months 24,859, of which 5,858 visited the galleries on Sunday afternoons.

During the year, the following appointments and resignations from the National gallery staff occurred: Miss Lula Park was appointed stenographer by the trustees, in place of Miss Lampman, stenographer, who resigned. Herbert Walker was appointed carpenter by the trustees' by-law, approved by the Hon. Minister of Public Works.

The trustees feel it their duty to include in this report a statement regarding the necessity of providing adequate premises for the fast growing and already extremely valuable collection of works of art belonging to the National gallery of Canada. At the end of 1915, it was obvious that the possessions of the National gallery had entirely outgrown the premises allotted to them in the Victoria museum. Valuable and irreplaceable pictures of all periods and schools were forced to be hung without proper classification or division, so that both their educative and artistic value were in a measure lost. The continual acquisition of valuable works of art had so encroached upon the small but well mounted collection of casts, that they were fast losing their value as models for students coming to copy them.

The collections of prints and drawings, one of the most valuable factors in the education and training of an artist and one which the trustees have made a special feature of their work, were increasing out of all proportion to the possibility of exhibiting them. Want of the necessary wall space absolutely precluded any temporary or travelling exhibitions of art from being held at the National gallery. Such exhibitions are frequently available and are of the greatest interest and value to the public, giving them a more intimate knowledge of the work of one or more artists who have become specially famous and influential.

At the end of 1915, therefore, the trustees were faced with a condition which, in order to justify their continued efforts on behalf of the cause of art in Canada, demanded some action towards securing adequate premises for the National gallery of Canada, where its possessions might be set forth to the best advantage, and greater encouragement given to fostering public appreciation and understanding of the fine arts. To relieve the excessive overcrowding of the National gallery and at the same time to spread as far as possible throughout the Dominion a better knowledge of art, the trustees, with the consent of the Government, instituted a system of loan exhibitions of pictures whereby any reputable art society or body in Canada, having proper facilities for their exhibition, might apply for and receive a loan of pictures for one year. That this policy has been appreciated is seen from the fact that applications are increasing and that the loans are almost invariably repeated.

This whole situation and a suggested plan of action was under the trustees' consideration when the fire at the Parliament buildings created a situation for the National gallery whereby all its premises, however inadequate, were immediately required for the use of the Houses of Parliament, and valuable and irreplaceable works of art, only to be handled with the utmost care, had to be placed in storage within 36 hours. That this was accomplished without damage or accident is a tribute to the efficiency of the National gallery staff, who worked early and late to dismantle the galleries, which had taken such labour and patience to establish.

The situation at the close of the fiscal year is not an encouraging one, and it is one for which the trustees believe a remedy could, without great difficulty, be found. The valuable possessions of the National gallery are stored away under conditions which are extremely bad for works of art. For the visiting public there is now no National gallery or exhibition of art of any kind in the capital of Canada, while the student is deprived of the means of continuing his art education. The combination of the war and the destruction of the Parliament buildings has temporarily set back the work of the National gallery, but it has had this good effect, that the situation regarding adequate premises has now become so acute that it seems necessary that new premises of some kind be provided if this most valuable and progressive branch of the Government service is to continue.

The administrative work of the National gallery continues as actively as before the closing of the galleries, for the care of works of art when in such unsatisfactory storage is more exacting than when they are on exhibition, while the increased number of outside loans means increased office work. It is the most earnest hope of the trustees that the position of the National gallery and its duty to the public will be carefully considered.

The trustees of the National gallery met formally on four occasions, and informally on other occasions, and the following works of art were acquired by gift or purchase:—

GIFTS—

Alfred Rethel	Three woodcuts presented by Dr. Shepherd.
G. Wallwyn Shepherd	Pencil drawing "Near Avignon." Presented by J. Miles.
Willem Hondius	Engraving presented by Dr. Shepherd.
Lucas Vorsterman	Engraving presented by Dr. Shepherd.
Andrea Andreani	Woodcut. Presented by Dr. Shepherd.

SESSIONAL PAPER No. 19

DIPLOMA PICTURES—

R. F. Gagen, R.C.A.. .. .. Pulpit Rock.
W. S. Maxwell, R.C.A.. .. .. Design for Departmental Building, Ottawa.

PURCHASES—

Oil Paintings—

John Bell-Smith.. .. .. Portrait.
John Lavery, A.R.A.. .. .. Portrait of H.R.H. Princess Patricia of Connaught.
Harriet Ford.. .. .. The Market Square, Segovia.
T. W. Mitchell.. .. .. In the Blue Mountains.
J. E. H. Macdonald, A.R.C.A. Snowbound.
Tom Thomson.. .. .. Northern River.
Mary E. Wrinch.. .. .. The Little Bridge.
R. S. Hewton.. .. .. A Spring Day.
John Johnstone.. .. .. Quai des Augustins, Bruges.
Albert H. Robinson, A.R.C.A.. .. Winter Sunrise.
G. Horne Russell, A.R.C.A.. .. .. Early Spring.
William Brymner, P.R.C.A.. .. .. Fog on the Coast.
A. Y. Jackson, A.R.C.A. Winter Afternoon.
Percy Woodcock, R.C.A.. .. .. .. Near Chateauguay.
F. Luis Mora, N.A.. .. .. In Costume.
Alex Marcette .. .. Rainy Weather.
O. Leduc.. .. .. Pommes Vertes.
A. Lismer.. .. .. The Guide's Home.
W. E. Atkinson.. .. .. January Thaw.
Ernest Lawson, A.N.A.. .. .. Misty Day.
J. W. Beatty, R.C.A.. .. .. Morning, Algonquin Park.
W. Brymner, P.R.C.A.. .. .. Nude Figure.
F. S. Challener, R.C.A.. .. .. A Selkirk Pioneer.
W. H. Clapp, A.R.C.A.. .. .. Rio Nuevas, Cuba.
Miss Alberta Cleland.. .. .. On the Beach Notre Dame de Portage.
Charles de Belle.. .. .. Children's Joy.
Miss Alice Des Clayes.. .. .. Drawing Water.
E. Wyly Grier, R.C.A.. .. .. Noon.
André Lapine.. .. .. The Team.
Alfred Mickle.. .. .. Dyke-lands of Grand Pré.
Valentine Molina.. .. .. Morning.
H. Ivan Neilson.. .. .. An October Pastoral, Cap Rouge, Que.
Arthur D. Rosaire, A.R.C.A .. .. Mulet River, Laurentian Mountains.
G. A. Reid, R.C.A.. .. .. Vacant Lots.
Chas. W. Simpson, A.R.C.A .. .. Winter in the Harbour.
Tudor Hart.. .. .. Sheep, Brittany.

Etchings, Drawings, Prints—

Miss A. E. Hope.. .. .. Seller of Wine.
Frank Brangwyn, A.R.A.. .. .. Unloading Barges.
G. Spencer Pryse.. .. .. The Workroom.
" .. .. Point to Point Races.
Daniel A. Vere-Smith.. .. .. The New Slave.
Ethel Gabain.. .. .. La Toilette.
" .. .. Stripes and Black.
John Copley.. .. .. Counsel and Vender of Stamps.
" .. .. Footlights.
Anthony Barker.. .. .. The Wind.
F. Ernest Jackson .. .. Chiswick Mall, London.
C. Shepperson.. .. .. The Rainbow.
" .. .. Pastoral.
Harry Becker.. .. .. Young Girls Gathering Potatoes.
B. Beham.. .. .. Portrait of Emperor Ferdinand I.
H. S. Beham.. .. .. Justice of Emperor Trajan.
Faithorne.. .. .. Margaret Smith.
Claude.. .. .. Dance Under the Trees.
Mantegna.. .. .. Battle of Sea Gods.
Pencz.. .. .. The Conversion of Saul.
" .. .. Horatius Cocles Defending the Bridge at Rome.
Rembrandt.. .. .. The Synagogue.
" .. .. Landscape with Mill Sail.
Robetta.. .. .. Adoration of the Magi.
Rosex.. .. .. Pallas.
Van Leyden.. .. .. Christ Appearing to the Megdalen.
" .. .. Return of the Prodigal Son.
Durer.. .. .. The Mass of St. Gregory.
" .. .. Birth of the Virgin.
" .. .. Christ in Limbo.
" .. .. The Mocking of Christ.

PURCHASES—*Concluded.*

Etchings, Drawings, Prints—Concluded.

Rembrandt.. .. ..Abraham's Sacrifice.
Altdorfer.. .. ..Judith with Head of Holofernes.
" .. ..Pyramus and Thysbe.
" .. ..Virgin and Child.
H. S. Beham.. .. ..Lichas bringing Hercules the Garment of Nessus.
" .. ..Labours of Hercules.
Pencz.. .. ..Scaevola defying Porcena.
Zatzinger.. .. ..The Great Tournament.
Robetta.. .. ..An Allegory of Abundance.
John W. Cotton.. .. ..Beeches, Epping Forest.
" .. ..Winter's Mantle.
" .. ..The Lime Kiln.
" .. ..L'Entres de l'Eglise au Beguinage, Bruges.
Walter Duff.. .. ..Miss Florence Wyle.
T. G. Greene.. .. ..Four etchings.
S. H. Maw.. .. ..Lowestoft Harbour, England.
" .. ..Ely Cathedral, England (Interior).
" .. ..Ely Cathedral, England (Interior).
Dorothy Stevens.. .. ..Carmen.
C. W. Simpson, A.R.C.A.. .. .. ..Sous le fort, Quebec.
" " .. .. ..Notre Dame, Montreal.
Herbert Raine.. .. ..Louviers, France.
C. Barraud.. .. ..The Road in the Valley.
" .. ..The Keewatin Channel.
John W. Cotton.. .. ..Fish Market, Bruges.
W. R. Duff.. .. ..Near Dundas.
T. G. Greene.. .. ..The Beach, Lake Shore.
" .. ..Willows, Moonlight.
E. Laur.. .. ..Moonlight on the Credit.
Herbert Raine.. .. ..Siena, Italy.
F. W. Jopling.. .. ..Studies of my Dog.
Mary Cassatt.. .. ..Le potager.
" .. ..La Lettre.
" .. ..Femme assise.
" .. ..Fillettes regardant des images.
" .. ..Femme se coiffant.
Baertsoen .. ..Moulin sur le Rampart Bruges.
" .. ..Kroomboomsloot I.
Opsomer.. .. ..L'Eglise der Beguinage.
" .. ..La Nethe à Lierre.
Herbert Raine.. .. ..Evening, The Canal, Montreal.
Joseph St. Charles.. .. ..Tete d'etude.
Salvatore Rosa.. .. ..Emblematic Subject.
S. F. Ravenet.. .. ..The Lord of the Vinyard.
T. Wood.. .. ..Rest during the Flight to Egypt.
Martinus Peirt.. .. ..Le Negociant d'Amsterdam.
School of Mantegna.. .. ..Christ descending into Hell.
" " .. ..The Entombment.
Jean Duvet.. .. ..Christ on a White Horse.
W. J. Thomson.. .. ..Lime Burner's Camp.

Pastels—

Maurice Cullen, R.C.A.. .. .. ..The North River.

Water Colours—

Robert F. Gagen, R.C.A. .. .. ..The Edge of the Rocks.
T. G. Greene... .. ..In the Woods.
C. J. Collings.. .. ..The Passing of Winter.
Cecil Buller.. .. ..Breton House.

Bronzes—

A. Suzor-Cote, R.C.A.. .. ..The old Pioneer.
Miss Florence Wyle.. .. ..Dancing Boy.
J. M. Swan, R.A.. .. ..The Boy with Mongoose.
J. M. Swan, R.A.. .. ..Walking Leopard.

NATIONAL GALLERY—APPROPRIATION ACCOUNT.

Date.	No. of Cheque.	To Whom Paid.	Dr. to Appro.	Expenditure
		Amount granted by appropriation....	$25,000 00	$ cts.
April 30....	No. 40.....	National Gallery Trust Account	.....	500 00
May. 12....	" 41.....	Bank of Commerce, loan, prints bought from Keppel & Co	.....	2,300 00
" 12 ...	" 42	Ontario Society of artists. prints, etching, etc..	....	1,657 00
" 21....	B. of Ex.	McMillan, James, insurance, "Adam and Eve".....	.. . .	27 38
June 9....	"	Bromhead, H. W., books.	.....	24 70
" 9....	"	Carroll Gallery, London, Colling's water colour.....	.....	300 00
" 9....	No. 43	Art Museum of Toronto, etchings..... .	.....	135 00
" 9....	" 44.....	Manzi Joyant & Co., New York. etchings, Senefelder Club...	....	255 00
" 11....	" 45.....	Raine, Herbert, etching, Louviers, France...	.....	20 00
" 11....	" 46	Johnstone John, oil painting, "Quai des Augustins."	.....	100 00
" 11....	" 47	Brymner, William, P.S.C.A., oil painting, "Fog on the Coast"...	.....	250 00
" 11....	" 48.....	Simpson, Chas. W., R.C.A., 2 etchings).....	.....	10 00
" 11....	" 49	Russell, G. Horne, A.R.C.A., oil painting, "Early Spring"...	....	250 00
" 11....	" 50.....	Hewton, R. S., oil painting, "A Spsing Day".	....	200 00
" 11....	" 51	Bell-Smith, F. M. oil painting, "Portrait"...	. ...	750 00
" 11....	" 52.....	Durand-Ruel, Mary Cassatt etchings.....	....	270 00
" 11....	" 53	Jackson, A. Y., oil painting, "Winter Afternoon"..	.....	250 00
" 11....	" 54.....	Keppel, Frederick & Co., difference on exchange Durer print.....	... .	19 50
" 14....	" 55.....	Scott, W. & Sons, P. F. Woodcock, painting, "Near Chateaugay".	.....	660 00
" 23 ...	" 56.....	Robinson, Albert H., oil painting "Winter Sunrise".....	... .	300 00
June 30 ..	" 57.. ...	National Gallery Trust Account...	..... .	500 00
July 12....	" 58.....	Artist's Supply Company, four Medici prints.	....	28 20
... .	" 59.....	Cancelled.		
July 16....	" 60	Mortimer Company, Limited, catalogue 1915.	.....	514 75
Aug. 16....	" 61.....	National Gallery Trust Account	.....	500 00
" 16....	" 62.. ..	Cleghorn & Beattie, grey linen for cases.	.....	107 47
" 19....	B. of Ex.....	Swan, Mrs , bronze statuettes, Boy with Mongoose, etc.	.....	778 67
" 19....	"	Grosvernor Gallery, London, Lavery portrait, Princess Patricia.....	.....	535 33
" 19 ...	"	Edwards, Francis, books.....	.....	133 39
Oct. 13 ...	No. 63.....	National Gallery Trust Account.....	....	500 00
" 18....	B.of Ex.....	Senefelder Club, subscriptions, 1915-17	....	5 11
" 19....	No. 64.... .	National Gallery Trust Account	....	500 00
" 21....	" 65.....	Canadian National Exhibition Association, paintings, etchings, lithographs.....	....	2,800 00
Nov. 12....	" 66	Canadian Art Club, Toronto, January Thaw and Misty Day....	.....	1,100 00
" 22....	" 67.....	Royal Canadian Academy, 21 pictnres purchased.....	... .	5,015 00
" 25....	B.of Ex.....	Edwards, Francis, books.....	....	17 25
Dec. 3 ...	No. 68.....	National Gallery Trust Account	....	500 00
" 7....	" 69	Royal Canadian Academy of Arts, travelling scholarship, Miss Dorothy Stevens.....	....	1,000 00
....	" 70.....	Cancelled.		
" 7....	" 71 ...	Artist's Supply Company, Medici prints N. P.G., 12, 20, 93, 88, 89.....	....	17 40
" 20....	" 72 ...	National Gallery Trust Account.....	....	500 00
" 23....	B.of Ex.....	Graves, Algernon, books	....	19 47
Jan. 13....	No. 73.....	Art Association, Montreal, "Sheep Britany", Tudor Hart..	.....	100 00
" 13 ...	" 74.....	Artist's Supply Co., Medici print No. 92....	... .	7 80
" 13....	" 75.....	National Gallery Trust Account.....	.....	500 00
" 29....	" 76.....	" "	... .	500 00

NATIONAL GALLERY—APPROPRIATION ACCOUNT—*Concluded.*

Date.	No. of Cheque.	To Whom Paid.	Dr. to Appro.	Expenditure
				$ cts.
Feb. 3....	B.of Ex.....	Fraucis Edwards, books	....	51 46
" 9....	No. 77.....	Natlonal Gallery Trust Account.....	.....	500 00
		Total..	....	24,979 88
		Balance....	....	20 12

B. G. WALKER,
Chairman of Trustees.

ARTHUR BOYER,
Trustee.

FRANCIS J. SHEPHERD,
Trustee.

ERIC BROWN,
Director.

NAMES OF THE CHIEF OFFICERS

OF THE

DEPARTMENT OF PUBLIC WORKS

WITH

DATES OF APPOINTMENT, ETC., FROM 1841 TO 1916.

THE NAMES AND DATES of the appointments, etc., of the principal Officials of the Department of Public Works, from 1841 to 1916:—

Names.	Capacity or Office.	Date of Appointment. Service. From.	To.
Under Statute 4-5 Vic., Chap. 38.			
CORPORATION BOARD OF WORKS.			
Killaly, Hon. H. H. Daly, Hon. D. Harrison, S.B. Sullivan, R. B. Davidson, J., Esq.	Chairman Members	Dec. 29, 1841	Oct. 3, 1844
Begly, Thomas A.	Secretary	Aug. 17, 1841	
Keefer, Samuel	Chief Engineer	" 17, 1841	
Rubidge, F.B.	Architect and Asst. Chief Engineer	Dec. 15, 1841	
NEW BOARD OF WORKS.			
Killaly, Hon. H. H. Daly, Hon. D. Draper, Hon. W. H. Morris, Hon. W Papineau, Hon. D. B	Chairman Members	Oct. 4, 1844	June 8, 1846
Under Statute 9th Vic., Cap. 37, etc.			
Robinson, Hon. W. B.	Chief Commissioner	June 12, 1846	Mar. 10, 1848
Taché, Hon. E. P.	" "	Mar. 11, 1848	Nov. 26, 1849
Chabot, Hon. J.	" "	Dec. 13, 1849	Mar. 31, 1850
Merritt, Hon. W.H.	" "	April 8, 1850	Feb. 11, 1851
Bourret, Hon. J.	" "	Feb. 12, 1851	Oct. 27, 1851
Young, Hon. John	" "	Oct. 28, 1851	Sept. 22, 1852
Chabot, Hon. J.	" "	Sept. 23, 1852	Jan. 26, 1855
Lemieux, Hon. F.	" "	Jan. 27, 1855	Nov. 25, 1857
Alleyn, Hon. C.	" "	Nov. 26, 1857	Aug. 1, 1858
Holton, Hon. L. H	" "	Aug. 2, 1858	" 6, 1858
Sicotte, Hon. L. V.	" "	" 7, 1858	Jan. 10, 1859
Rose, Hon. John	" "	Jan. 11, 1859	June 12, 1861
Cauchon, Hon. Joseph	Commissioner	June 13, 1861	May 23, 1862
Tessier, Hon. U. J.	"	May 24, 1862	May 27, 1863
Drummond, Hon. L. T.	"	" 28, 1863	July 23, 1863
Laframboise, Hon. M.	"	July 24, 1863	Mar. 29, 1864
Chapais, J. C.	"	May 30, 1864	June 30, 1867
Casgrain, Hon. Charles Eus.	Second Commissioner	July 9, 1846	Feb. 29, 1848
Cameron, Hon. M.	Assistant Commissioner	Mar. 11, 1848	" 1, 1850
Wettenhall, James, Esq.	" "	Feb. 2, 1850	April 16, 1850
Bourret, Hon. Joseph	" "	April 17, 1850	Feb. 11, 1851
Killaly, Hon. H. H.	" "	Feb. 12, 1851	May 6, 1859
Keefer, Samuel	Deputy Commissioner	May 6, 1859	Mar. 7, 1864
Trudeau, Toussaint	" "	Mar. 8, 1864	May 29, 1868
Begley, Thomas A.	Secretary	Feb. 10, 1841	Oct. 31, 1857
Trudeau, Toussaint	"	Dec. 13, 1859	Mar. 7, 1864
Braun, Frederick	"	Mar. 8, 1864	July 1, 1867
Page, John	Chief Engineer	Oct. 31, 1873	Oct. 1, 1879

THE NAMES AND DATES of the appointments, etc., of the principal Officials of the Department of Public Works, from 1841 to 1916—*Concluded.*

Names.	Capacity or Office.	Date of Appointment. Served. From.	To.
Under Statute 31 Vic., Cap. 12.			
McDougall, Hon. Wm	Minister	July 1, 1867	Dec. 7, 1869
Langevin, Hon. Hector L., C.B	"	Dec. 8, 1869	Nov. 6, 1873
Mackenzie, Hon. Alexander	"	Nov. 7, 1873	Oct. 16, 1878
Tupper, Sir Charles, C.B., K.C.M.G	"	Oct. 17, 1878	May 19, 1879
Langevin, Sir Hector L., C.B., K.C.M.G	"	May 20, 1879	Aug. 11, 1891
Smith, Hon. Frank	Acting Minister	Aug. 14, 1891	Jan. 10, 1892
Ouimet, Hon. Joseph Alderic	Minister	Jan. 11, 1892	April 30, 1896
Desjardins, Hon. Alphonse	"	May 1, 1896	July 12, 1896
Tarte, Hon. J. Israel	"	July 13, 1896	Oct. 21, 1902
Sutherland, Hon. James	"	Nov. 11, 1902	May 3, 1905
Hyman, Hon. Charles S	"	May 22, 1905	Aug. 29, 1907
Pugsley, Hon. Wm	"	Aug. 30, 1907	Oct 12, 1911
Monk, Hon. F. D	"	Oct. 12, 1911	Oct. 22, 1912
Rogers, Hon. Robert	"	Oct. 29, 1912	
Trudeau, Toussaint	Deputy Minister	May 29, 1868	Oct. 1, 1879
Baillarge, G. F	"	Oct. 4, 1879	Dec. 31, 1890
Gobeil, A., I.S.O	"	Jan. 1, 1891	June 2, 1908
Hunter, James B	"	July 1, 1908	
St. Laurent, Arthur	Assistant Deputy Minister	" 1, 1908	
Braun, Frederick	Secretary	" 1, 1867	Sept. 30, 1879
Chapleau, S	"	Oct. 1, 1879	Nov. 4 1880
Ennis, F. H	"	Nov. 5, 1880	Jan. 13, 1885
Gobeil, A	"	Jan. 23, 1885	Dec. 31, 1890
Roy, E. F. E	"	" 1, 1891	" 31, 1900
Gelinas, Fred	"	June 8, 1901	July 2, 1908
Tessier, Napoleon	"	Aug. 11, 1908	June 2, 1910
Desrochers, Rodolphe Charles	"	July 1, 1910	
McPherson, D. A	Assistant Secretary	Jan. 18, 1891	April 11, 1893
Desrochers, Rodolphe Charles	" "	" 8, 1896	June 30, 1910
Dillon, R. W	" "	Dec. 19, 1910	Mar. 23, 1911
Colman, L. H	" "	May 23, 1911	
Page, John	Chief Engineer	July 1, 1868	Oct. 1, 1879
Perley, H. F	"	Nov. 25, 1880	July 10, 1891
Coste, Louis	"	July 26, 1892	Mar. 18, 1899
Lafleur, E. D	"	Jan. 7, 1905	
Dufresne, A. R	Assistant Chief Engineer	May 13, 1910	
Scott, Thos. S	Chief Architect	" 26 1871	Oct. 30, 1881
Fuller, Thomas	"	Oct. 31, 1881	June 30, 1897
Ewart, David, I.S.O	"	Nov. 2, 1897	Sept. 30, 1914
Horwood, E. L	"	Oct. 1, 1914	